

Premier Reference Source

Applied Linguistics and Language Education Research Methods

Fundamentals and Innovations

Hung Phu Bui



IGI Global
Publishing Tomorrow's Research Today

Applied Linguistics and Language Education Research Methods: Fundamentals and Innovations

Hung Phu Bui

University of Economics Ho Chi Minh City, Vietnam

A volume in the Advances in Educational
Technologies and Instructional Design (AETID)
Book Series



Published in the United States of America by
IGI Global
Information Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue
Hershey PA, USA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: <http://www.igi-global.com>

Copyright © 2024 by IGI Global. All rights reserved. No part of this publication may be reproduced, stored or distributed in any form or by any means, electronic or mechanical, including photocopying, without written permission from the publisher. Product or company names used in this set are for identification purposes only. Inclusion of the names of the products or companies does not indicate a claim of ownership by IGI Global of the trademark or registered trademark.

Library of Congress Cataloging-in-Publication Data

CIP DATA PROCESSING

Applied Linguistics and Language Education Research Methods: Fundamentals and Innovations
Hung Phu Bui
2024 Information Science Reference

ISBN: 9798369326039(hc) | ISBN: 9798369350485(sc) | eISBN: 9798369326046

This book is published in the IGI Global book series *Advances in Educational Technologies and Instructional Design (AE-TID)* (ISSN: 2326-8905; eISSN: 2326-8913)

British Cataloguing in Publication Data

A Cataloguing in Publication record for this book is available from the British Library.

All work contributed to this book is new, previously-unpublished material. The views expressed in this book are those of the authors, but not necessarily of the publisher.

For electronic access to this publication, please contact: eresources@igi-global.com.



Advances in Educational Technologies and Instructional Design (AETID) Book Series

Lawrence A. Tomei
Robert Morris University, USA

ISSN:2326-8905
EISSN:2326-8913

MISSION

Education has undergone, and continues to undergo, immense changes in the way it is enacted and distributed to both child and adult learners. In modern education, the traditional classroom learning experience has evolved to include technological resources and to provide online classroom opportunities to students of all ages regardless of their geographical locations. From distance education, Massive-Open-Online-Courses (MOOCs), and electronic tablets in the classroom, technology is now an integral part of learning and is also affecting the way educators communicate information to students.

The **Advances in Educational Technologies & Instructional Design (AETID) Book Series** explores new research and theories for facilitating learning and improving educational performance utilizing technological processes and resources. The series examines technologies that can be integrated into K-12 classrooms to improve skills and learning abilities in all subjects including STEM education and language learning. Additionally, it studies the emergence of fully online classrooms for young and adult learners alike, and the communication and accountability challenges that can arise. Trending topics that are covered include adaptive learning, game-based learning, virtual school environments, and social media effects. School administrators, educators, academicians, researchers, and students will find this series to be an excellent resource for the effective design and implementation of learning technologies in their classes.

COVERAGE

- Game-Based Learning
- Digital Divide in Education
- Instructional Design Models
- Collaboration Tools
- Instructional Design
- K-12 Educational Technologies
- Web 2.0 and Education

IGI Global is currently accepting manuscripts for publication within this series. To submit a proposal for a volume in this series, please contact our Acquisition Editors at Acquisitions@igi-global.com or visit: <http://www.igi-global.com/publish/>.

The Advances in Educational Technologies and Instructional Design (AETID) Book Series (ISSN 2326-8905) is published by IGI Global, 701 E. Chocolate Avenue, Hershey, PA 17033-1240, USA, www.igi-global.com. This series is composed of titles available for purchase individually; each title is edited to be contextually exclusive from any other title within the series. For pricing and ordering information please visit <http://www.igi-global.com/book-series/advances-educational-technologies-instructional-design/73678>. Postmaster: Send all address changes to above address. Copyright © 2024 IGI Global. All rights, including translation in other languages reserved by the publisher. No part of this series may be reproduced or used in any form or by any means – graphics, electronic, or mechanical, including photocopying, recording, taping, or information and retrieval systems – without written permission from the publisher, except for non commercial, educational use, including classroom teaching purposes. The views expressed in this series are those of the authors, but not necessarily of IGI Global.

Titles in this Series

For a list of additional titles in this series, please visit:

<http://www.igi-global.com/book-series/advances-educational-technologies-instructional-design/73678>

Addressing Issues of Learner Diversity in English Language Education

Thao Quoc Tran (HUTECH University, Vietnam) and Tham My Duong (Ho Chi Minh City University of Economics and Finance, Vietnam)

Information Science Reference • copyright 2024 • 357pp • H/C (ISBN: 9798369326237) • US \$235.00 (our price)

AI-Enhanced Teaching Methods

Zeinab E. Ahmed (Department of Computer Engineering, University of Gezira, Sudan & Department of Electrical and Computer Engineering, International Islamic University Malaysia, Malaysia) Aisha A. Hassan (International Islamic University of Malaysia, Malaysia) and Rashid A. Saeed (Taif University, Saudi Arabia)

Information Science Reference • copyright 2024 • 405pp • H/C (ISBN: 9798369327289) • US \$245.00 (our price)

Effective and Meaningful Student Engagement Through Service Learning

Sharon Valarmathi (Christ University, India) Jacqueline Kareem (Christ University, India) Veerta Tantia (Christ University, India) Kishore Selva Babu (Christ University, India) and Patrick Jude Lucas (Christ University, India)

Information Science Reference • copyright 2024 • 293pp • H/C (ISBN: 9798369322567) • US \$275.00 (our price)

Integrating Cutting-Edge Technology Into the Classroom

Ken Nee Chee (Universiti Pendidikan Sultan Idris, Malaysia) and Mageswaran Sanmugam (Universiti Sains Malaysia, Malaysia)

Information Science Reference • copyright 2024 • 425pp • H/C (ISBN: 9798369331248) • US \$300.00 (our price)

Embracing Technological Advancements for Lifelong Learning

Mahmoud M. Kh. Hawamdeh (Al-Quds Open University, Palestine) and Faiz Abdelhafid (Al-Istiqlal University, Palestine)

Information Science Reference • copyright 2024 • 365pp • H/C (ISBN: 9798369314104) • US \$230.00 (our price)

Unlocking Learning Potential With Universal Design in Online Learning Environments

Michelle Bartlett (Old Dominion University, USA) and Suzanne M. Ehrlich (University of North Florida, USA)

Information Science Reference • copyright 2024 • 286pp • H/C (ISBN: 9798369312698) • US \$240.00 (our price)

Navigating Innovative Technologies and Intelligent Systems in Modern Education

Madhulika Bhatia (Amity University, India) and Muhammad Tahir Mushtaq (Cardiff Metropolitan University, UK)



701 East Chocolate Avenue, Hershey, PA 17033, USA

Tel: 717-533-8845 x100 • Fax: 717-533-8661

E-Mail: cust@igi-global.com • www.igi-global.com

Table of Contents

Preface	xiv
Chapter 1	
Identifying a Research Problem.....	1
<i>Thuy Ho Hoang Nguyen, University of Foreign Languages and International Studies, Hue University, Vietnam</i>	
<i>Thanh-Hai L. Cao, University of Foreign Languages and International Studies, Hue University, Vietnam</i>	
<i>Hai Thi Thanh Le, University of Foreign Languages and International Studies, Hue University, Vietnam</i>	
Chapter 2	
Reviewing the Literature.....	15
<i>Anh Thanh Nguyet Le, Dong Thap University, Vietnam</i>	
<i>Ngan Phan Thu Vo, Dong Thap University, Vietnam</i>	
<i>Thuy Diem Hong, Dong Thap University, Vietnam</i>	
<i>Anh Tram Ngoc Lu, Dong Thap University, Vietnam</i>	
<i>Nguyen Thi Cao Bui, Dong Thap University, Vietnam</i>	
Chapter 3	
Qualitative and Quantitative Approaches	29
<i>Kham Bao, University of Foreign Languages and International Studies, Hue University, Vietnam</i>	
Chapter 4	
Qualitative Data Collection.....	41
<i>Tu Thi Cam Dang, University of Foreign Languages and International Studies, Hue University, Vietnam</i>	
<i>Huy Van Nguyen, University of Foreign Languages and International Studies, Hue University, Vietnam</i>	
<i>Phuong Thi Thao Tran, University of Foreign Languages and International Studies, Hue University, Vietnam</i>	

Chapter 5	
Qualitative Data Analysis	55
<i>Cuong Huy Pham, Faculty of English, Ho Chi Minh City University of Economics and Finance, Vietnam</i>	
Chapter 6	
Ensuring Credibility and Trustworthiness in Qualitative Inquiries	70
<i>Truong Cong Bang, University of Economics and Law, Ho Chi Minh City, Vietnam & Vietnam National University, Ho Chi Minh City, Vietnam</i>	
Chapter 7	
Reliability and Validity in Quantitative Research.....	86
<i>Beatrice Bunmi Adeyemi, Olusegun Agagu University of Science and Technology, Nigeria</i>	
Chapter 8	
Sampling, Generalizability, and Reliability	103
<i>Nghi Tran Tin, Ho Chi Minh City University of Industry and Trade, Vietnam</i>	
<i>Hung Phu Bui, University of Economics Ho Chi Minh City, Vietnam</i>	
Chapter 9	
Ethnography	122
<i>Rizgar Qasim Mahmood, The University of Wollongong, Australia</i>	
Chapter 10	
Narrative Inquiry	150
<i>Cuong Huy Pham, Faculty of English, Ho Chi Minh City University of Economics and Finance, Vietnam</i>	
Chapter 11	
Action Research	164
<i>Chau Thi Hoang Hoa, Tra Vinh University, Vietnam</i>	
Chapter 12	
Case Study	182
<i>Tuyet Thi Tran, Hanoi University of Business and Technology, Vietnam</i>	
<i>Ha-Anh Thi Nguyen, Hanoi Pedagogical University 2, Vietnam</i>	
Chapter 13	
Experimental Research	206
<i>Nhat Truong Tran Minh, Industrial University of Ho Chi Minh City, Vietnam</i>	
<i>Rizgar Qasim Mahmood, University of Wollongong, Australia</i>	

Chapter 14

Revisiting Applied Linguistics and Language Education in the Digital Era: Scope and Future

Directions 228

Viet Quoc Hoang, University of Economics Ho Chi Minh City (UEH), Vietnam

Khang Nguyen Van, Phenikaa University, Vietnam

Compilation of References 244

About the Contributors 276

Index..... 279

Detailed Table of Contents

Preface	xiv
----------------------	-----

Chapter 1

Identifying a Research Problem.....	1
-------------------------------------	---

Thuy Ho Hoang Nguyen, University of Foreign Languages and International Studies, Hue University, Vietnam

Thanh-Hai L. Cao, University of Foreign Languages and International Studies, Hue University, Vietnam

Hai Thi Thanh Le, University of Foreign Languages and International Studies, Hue University, Vietnam

The current chapter concentrates on both the theoretical and practical aspects of identifying a research problem, one of the most important steps in the research process. Based on the scholarship in the disciplines of applied linguistics and language education, this chapter attempts to provide a thread covering key concepts, characteristics, stages and strategies in facilitating researchers to identify a research problem. The final objective is to outline a methodical approach to developing a specific research question that could be useful for data collection and even data analysis procedure. It is expected that the chapter would be able to equip researchers and practitioners with a thorough set of guidelines on how to identify a research problem in the targeted disciplines, thus contributing to the existing body of knowledge of the research process.

Chapter 2

Reviewing the Literature.....	15
-------------------------------	----

Anh Thanh Nguyet Le, Dong Thap University, Vietnam

Ngan Phan Thu Vo, Dong Thap University, Vietnam

Thuy Diem Hong, Dong Thap University, Vietnam

Anh Tram Ngoc Lu, Dong Thap University, Vietnam

Nguyen Thi Cao Bui, Dong Thap University, Vietnam

This chapter will cover the principles and procedures for conducting a literature review, following an introduction to the meaning, needs, nature, and objectives of such a review. It is critical for researchers to understand the importance, reasons, and outcomes of literature reviews. One essential step for researchers is to assess whether their topic is researchable before deciding to pursue it. The chapter will then delve into the steps involved in conducting a literature review, which includes searching for existing literature from diverse sources such as books, journals, and the internet, and developing a theoretical and conceptual framework. These steps will be explained in detail in this chapter.

Chapter 3

Qualitative and Quantitative Approaches	29
---	----

Kham Bao, University of Foreign Languages and International Studies, Hue University, Vietnam

This chapter aims to examine the qualitative and quantitative approaches dialectically from the two perspectives: disparity and complementarity. While the disparity perspective addresses the polarization of these two paradigms, the complementarity deals mainly with the interaction of these paradigms. These two perspectives are explained thoroughly on the philosophical assumptions and practical features. The chapter also examines the three different approaches that emerge from their interaction: qualitative, quantitative, and mixed methods. These approaches are logically explicated in terms of both characteristics and influential factors regarding their choice.

Chapter 4

Qualitative Data Collection.....	41
----------------------------------	----

Tu Thi Cam Dang, University of Foreign Languages and International Studies, Hue University, Vietnam

Huy Van Nguyen, University of Foreign Languages and International Studies, Hue University, Vietnam

Phuong Thi Thao Tran, University of Foreign Languages and International Studies, Hue University, Vietnam

The process of collecting qualitative data could be time-consuming and complicated, depending on the competence of the researcher. Although the use of qualitative data is much favored to shed light on the contingencies and intricacies of complex social research problems, it is often frowned upon due to the inconsistent nature of data and the interference of researchers' voices and values. It is thus important for researchers to understand the nature of this kind of data and how they can be collected effectively. In this chapter, we focus on the process of collecting qualitative data. The chapter begins with philosophical assumptions in collecting qualitative data, then will turn to different types of qualitative data and qualitative research approaches. Next, a list of techniques to collect qualitative data will be presented. Finally, the ethical issues of the qualitative data collection process will be covered.

Chapter 5

Qualitative Data Analysis	55
---------------------------------	----

Cuong Huy Pham, Faculty of English, Ho Chi Minh City University of Economics and Finance, Vietnam

Qualitative research has gained traction in applied linguistics, particularly language education, as it offers situated perspectives on teaching and learning practices and individual differences. However, qualitative data analysis is an onerous process that is contingent on an array of elements, including the settings encompassing the research, researchers' subjectivity, and the nature of the collected data. This chapter focuses primarily on approaches to qualitative data analysis, the significance of context in interpreting qualitative data, and procedures for transcribing and coding data. It also discusses the role and extent of influence of researchers on data analysis and methods of triangulation. Two prominent tools, i.e. content analysis and thematic analysis, are presented in detail showcasing the underlying principles, the steps involved in data analysis, and their respective values and limitations. The chapter concludes with a summative emphasis on major attributes of qualitative data analysis and researchers' role in analyzing and interpreting qualitative data.

Chapter 6

Ensuring Credibility and Trustworthiness in Qualitative Inquiries 70

Truong Cong Bang, University of Economics and Law, Ho Chi Minh City, Vietnam &

Vietnam National University, Ho Chi Minh City, Vietnam

This chapter examines conceptualizations and applications of validity in qualitative research within applied linguistics and language education. It outlines the importance of addressing validity given the complexity of language phenomena and contextual embeddedness of language research. Strategies to enhance ethical qualitative practice are discussed. Limitations of existing validity approaches for these fields are critiqued and alternative perspectives proposed. Additionally, the chapter analyzes myriad validity considerations regarding the multifaceted nature of language and aims of language-focused inquiries, providing case study examples. Methodological and ethical strategies to strengthen qualitative research validity are explored, emphasizing reflexivity and researcher positionality. The chapter argues for embracing expanded conceptual lenses aligned with ethical priorities to realize rigorous, equitable and justice-oriented qualitative practice.

Chapter 7

Reliability and Validity in Quantitative Research..... 86

Beatrice Bunmi Adeyemi, Olusegun Agagu University of Science and Technology, Nigeria

This chapter is specifically designed for undergraduate and graduate students of applied linguistics, language education, language teachers, as well as applied linguists. It offers readers a thorough exploration into the intricacies of maintaining credibility and precision in their quantitative research work. The extensive content delves beyond superficial comprehension by presenting an intricate grasp on the fundamental principles required to establish reliability and validity. The chapter will guide readers through an exploration of the fundamental aspects of quantitative research, emphasizing the importance of reliability and validity evaluation. By delving into key concepts and methods for assessing measurement accuracy, consistency, and dependability, readers will acquire a deep understanding that enhances their overall research quality. Upon completion of this chapter, individuals will possess vital comprehension on reliability and validity. Moreover, they shall gain the ability to uphold their research's meticulousness and credibility in quantitative studies.

Chapter 8

Sampling, Generalizability, and Reliability 103

Nghi Tran Tin, Ho Chi Minh City University of Industry and Trade, Vietnam

Hung Phu Bui, University of Economics Ho Chi Minh City, Vietnam

This chapter presents the intricate process of sampling within the context of applied linguistics and language education research, providing a comprehensive overview of various sampling techniques and their critical roles in ensuring the validity and reliability of research outcomes. It thoroughly examines both probability and nonprobability sampling methods, outlining their respective advantages, limitations, and suitable applications. Through detailed discussion, the chapter highlights the importance of careful sample selection to accurately reflect the population of interest, thus ensuring the generalizability of the research findings. Key considerations such as sample size determination, minimizing sampling bias, and ethical issues related to sampling are explored, offering valuable insights for researchers. By integrating these considerations with practical examples and guidelines, this chapter aims to equip researchers in applied linguistics and language education with the knowledge to design robust studies that can contribute significantly to the field.

Chapter 9

Ethnography	122
<i>Rizgar Qasim Mahmood, The University of Wollongong, Australia</i>	

This chapter offers an exploration of ethnography, a key methodological approach in contemporary social research. Beginning with its origins and principles, the chapter outlines the ethnographic research process, including data collection and analysis methods. Practical examples from applied linguistics and L2 education illustrate its application. The chapter delves into the nuanced aspects of ethnography, enhancing understanding of its investigative potential. It also discusses the relationship between ethnography and theories, along with ethical considerations in research. Overall, the chapter provides a comprehensive overview and practical insights for engaging with ethnographic research in academic domains.

Chapter 10

Narrative Inquiry	150
<i>Cuong Huy Pham, Faculty of English, Ho Chi Minh City University of Economics and Finance, Vietnam</i>	

Narrative inquiry has made significant contributions to contemporary research in applied linguistics for its versatility in accounting for the multiple voices of participants and offering contextually embedded insights into social phenomena. As narratives represent the accumulation of knowledge and experience within and across time, space and social relationships, this line of inquiry provides rich understandings of participants' lifeworld and their constructions of personal meaning. This chapter discusses the epistemology and ontology underpinning narrative research, the role of narrative inquirers and the ethical dilemmas they encounter. It then presents narrative frames, visually mediated narratives, and critical incident narratives as three prominent tools for data gathering, and recent empirical research to illuminate how they have been utilized for particular research purposes and in different contexts. The final section concerns three analytical approaches frequently adopted in narrative research including thematic analysis, discourse analysis, and narrative writing.

Chapter 11

Action Research	164
<i>Chau Thi Hoang Hoa, Tra Vinh University, Vietnam</i>	

This chapter delves into the significance of action research on the professional growth of English as a foreign language (EFL) teachers. The chapter begins by defining action research and distinguishing it from traditional research designs. The chapter further explores a variety of action research models, which these models are presented not just as theoretical constructs but as practical tools that EFL teachers can use to enhance their teaching practices. Finally, the chapter addresses the practical challenges and limitations associated with implementing action research in the EFL teaching context. It acknowledges that while action research offers a robust framework for teacher development and pedagogical improvement, there are hurdles in terms of understanding, selecting, and applying the most appropriate model. The chapter also recognizes its own limitations, notably its lack of comprehensive, step-by-step guidelines for action research application, and its focus on overarching concepts rather than detailed problem-solving strategies.

Chapter 12

Case Study 182

Tuyet Thi Tran, Hanoi University of Business and Technology, Vietnam

Ha-Anh Thi Nguyen, Hanoi Pedagogical University 2, Vietnam

This chapter delves into the impact of case studies within applied linguistics and language education, underscoring its indispensable role in navigating the complexities of contemporary language learning and teaching. The chapter illuminates how this approach facilitates a nuanced understanding of linguistic phenomena within real-life contexts by examining the case study method's core principles, design, and implementation strategies. Emphasizing the flexibility and adaptability of case studies, the chapter showcases their capacity to offer in-depth, rich insights that transcend traditional research methodologies. This chapter also articulates an argument for integrating case studies in advancing the field's knowledge base and practice by aligning its mission with the book's overarching aim. Concluding with a reflective synthesis, the chapter invites researchers and practitioners alike to engage with the case study, highlighting its transformative potential and enduring impact on applied linguistics and language education.

Chapter 13

Experimental Research 206

Nhat Truong Tran Minh, Industrial University of Ho Chi Minh City, Vietnam

Rizgar Qasim Mahmood, University of Wollongong, Australia

Nowadays, researching and innovating teaching processes is vital for teachers at higher education to improve their teaching quality, especially in applied linguistics and language education. experimental research is a useful approach for researchers, educators, teachers and managers at universities. The chapter may aim to achieve the following objectives: (1) Present a comprehensive overview of experimental research methodologies; (2) Provide guidelines for designing experiments, including defining research questions, selecting appropriate variables, and establishing control conditions; (3) Discuss various data collection methods, including observation, surveys, and laboratory experiments; (4) Detail the importance of random assignment and statistical analysis techniques to ensure robust results; (5) Highlight ethical considerations and potential limitations in experimental research; (6) Showcase examples of successful experimental studies in different disciplines to provide practical insights.

Chapter 14

Revisiting Applied Linguistics and Language Education in the Digital Era: Scope and Future

Directions 228

Viet Quoc Hoang, University of Economics Ho Chi Minh City (UEH), Vietnam

Khang Nguyen Van, Phenikaa University, Vietnam

In response to linguistic development, applied linguistics has become a specialized field capturing linguists' attention. It addresses real-world language problems, especially in education. With its applied concept, it has broadened its mission, targets, and scope, positioning itself as an interdisciplinary field between linguistics and education, exploring critical issues in language use. Simultaneously, technological advances have significantly influenced the landscape of applied linguistics. An extensive survey of the

current literature in the field shows some topics of interest, such as technology-enhanced language learning, computational linguistics, and technology-assisted language assessment, having expanded the paradigms of applied linguistics. This chapter situates applied linguistics as influenced by linguistics, education, psychology, and sociology, presenting the recent expansion of the scope of applied linguistics, and discussing its future direction.

Compilation of References	244
About the Contributors	276
Index.....	279

Preface

As the editor of *Applied Linguistics and Language Education Research Methods: Fundamentals and Innovations*, I am thrilled to present this comprehensive reference book to the scholarly community. In recent decades, applied linguistics has undergone a remarkable evolution, emerging as a dynamic interdisciplinary field influenced by linguistics, psychology, education, and technology. This evolution has ushered in an era where diverse research methods are employed to explore the complexities of language acquisition, teaching, and use.

In response to this evolution, this book seeks to provide current perspectives on research methods in applied linguistics. By addressing the intersection of theory and practice, I aim to equip both novice and seasoned researchers with the tools and insights necessary to navigate the ever-changing landscape of applied linguistics research.

Designed for undergraduate and graduate students of applied linguistics and language education, as well as language teachers and applied linguists, this book covers a wide range of topics essential to the research process. From the foundational principles of research ethics to the practicalities of data collection and analysis, each chapter offers valuable insights and guidance.

One of the distinguishing features of this book is its exploration of both traditional and innovative research approaches. While qualitative and quantitative methods remain indispensable, emerging trends such as artificial intelligence and language analysis, offering readers a glimpse into the future of applied linguistics research are also discussed deeply.

Moreover, this book acknowledges the importance of ethical considerations in research, emphasizing the need for integrity and responsibility at every stage of the research process. By promoting ethical awareness and best practices, I hope to foster a community of applied linguists and language educators committed to the highest standards of conduct.

ORGANIZATION OF THE BOOK

In **Chapter 1**, readers will embark on a journey through the foundational stage of research: identifying a research problem. This chapter provides a comprehensive exploration of major concepts, stages, and strategies, drawing from scholarship in applied linguistics and language education. By offering a step-by-step process towards formulating specific research questions, this chapter equips researchers with the necessary tools to enrich the current literature on research methodology.

Chapter 2 dives into the principles and procedures of conducting a literature review, elucidating its meaning, needs, and objectives. Readers will gain insights into the critical assessment of the research

Preface

topics before delving into a comprehensive guide on conducting literature reviews. From sourcing diverse literature to developing theoretical frameworks, this chapter provides researchers with essential skills for literature review mastery.

Chapter 3 dialectically examines qualitative and quantitative approaches, addressing both their disparities and complementarities. By exploring philosophical assumptions and practical features, readers can gain a nuanced understanding of these paradigms. Additionally, the chapter navigates the landscape of qualitative, quantitative, and mixed methods approaches, offering clarity on their characteristics and influential factors.

Chapter 4 focuses on the intricate process of collecting qualitative data, emphasizing its importance despite challenges such as inconsistency and researcher interference. From philosophical underpinnings to ethical considerations, this chapter provides a comprehensive guide to effective qualitative data collection techniques.

Chapter 5 delves into the complexities of qualitative data analysis, exploring approaches, contextual significance, and researchers' influence. Through detailed discussions on content and thematic analysis, readers gain practical insights into interpreting qualitative data accurately and ethically.

Chapter 6 examines the conceptualizations and applications of credibility and precision in qualitative research, addressing the multifaceted nature of language phenomena. By proposing strategies to enhance ethical practice and discussing validity considerations, this chapter advocates for rigorous and equitable qualitative research.

Chapter 7 offers a thorough exploration of maintaining reliability and validity in quantitative studies. By emphasizing fundamental principles and methods for assessing reliability and validity, readers gain essential skills to uphold the quality of quantitative research.

Chapter 8 presents a comprehensive view of sampling techniques in applied linguistics and language education research. By examining both probability and non-probability sampling methods, readers learn to ensure the generalizability and reliability of their research outcomes.

Chapter 9 provides insights into ethnography as a key methodological approach in applied linguistics and language education research, offering practical guidance on data collection, analysis, and ethical considerations.

Chapter 10 explores the significance of narrative inquiry in understanding social phenomena within applied linguistics, offering practical tools and analytical approaches for data gathering and analysis.

Chapter 11 delves into the role of action research in enhancing EFL teachers' professional growth, exploring models and practical challenges in its implementation.

Chapter 12 highlights the indispensable role of case studies in navigating the complexities of language learning and teaching, offering practical strategies for their design and implementation.

Chapter 13 presents experimental research methodologies, providing guidelines, data collection methods, and ethical considerations to ensure robust results.

Chapter 14 situates applied linguistics within the interdisciplinary landscape, exploring its recent expansion and future directions influenced by technological advancements and real-world language problems.

Together, these chapters offer a comprehensive guide to research methods in applied linguistics and language education, providing readers with the knowledge and skills to make meaningful contributions to the field.

As the editor, I am indebted to the contributions of our esteemed authors, whose expertise and dedications have enriched this volume immeasurably. I am also grateful to the readers whose curiosity and passion drive the advancement of knowledge in applied linguistics and language education.

CONCLUSION

In conclusion, *Applied Linguistics and Language Education Research Methods: Fundamentals and Innovations* serves as a testament to the vibrancy and diversity of research in our field. I invite readers to engage with the content, challenge assumptions, and embark on their own scholarly journeys, confident in the knowledge that they are provided with the tools to make meaningful contributions to the ever-expanding body of knowledge in applied linguistics.

As the editor of *Applied Linguistics and Language Education Research Methods: Fundamentals and Innovations*, I am delighted to conclude this comprehensive journey through the diverse landscape of research methodologies in our field. Through the collective efforts of esteemed authors, this book offers a rich tapestry of insights, guidance, and practical strategies to empower researchers and practitioners alike.

From the foundational stages of identifying research problems to the intricacies of data collection, analysis, and interpretation, each chapter serves as a beacon illuminating the path towards rigorous and impactful research. By bridging theoretical concepts with practical applications, I aim to equip readers with the tools and knowledge necessary to navigate the complexities of contemporary research in applied linguistics and language education.

Moreover, this book underscores the interdisciplinary nature of our field, recognizing the intersections between linguistics, psychology, education, technology, and beyond. By embracing diverse perspectives and methodologies, I enrich my understanding of language acquisition, teaching, and use, paving the way for innovative solutions to real-world challenges.

As I conclude this journey, I invite readers to engage deeply with the content, challenge assumptions, and embark on their own scholarly pursuits. Whether you are an undergraduate student embarking on your first research project or a seasoned applied linguist seeking new insights, I hope that this book serves as a valuable companion on your academic journey.

In closing, I extend my heartfelt gratitude to all who have contributed to this endeavor – authors, reviewers, copyeditors, and readers. It is through your dedication and passion for advancing knowledge in applied linguistics and language education that this book has come to fruition.

Sincerely,

Hung Phu Bui

University of Economics Ho Chi Minh City, Vietnam

Chapter 1

Identifying a Research Problem

Thuy Ho Hoang Nguyen

University of Foreign Languages and International Studies, Hue University, Vietnam

Thanh-Hai L. Cao

University of Foreign Languages and International Studies, Hue University, Vietnam

Hai Thi Thanh Le

University of Foreign Languages and International Studies, Hue University, Vietnam

ABSTRACT

The current chapter concentrates on both the theoretical and practical aspects of identifying a research problem, one of the most important steps in the research process. Based on the scholarship in the disciplines of applied linguistics and language education, this chapter attempts to provide a thread covering key concepts, characteristics, stages and strategies in facilitating researchers to identify a research problem. The final objective is to outline a methodical approach to developing a specific research question that could be useful for data collection and even data analysis procedure. It is expected that the chapter would be able to equip researchers and practitioners with a thorough set of guidelines on how to identify a research problem in the targeted disciplines, thus contributing to the existing body of knowledge of the research process.

INTRODUCTION

Conducting a research project is like travelling a long journey with many steps and stages. Identifying a research problem is among the initial stages in the research process, guiding the researcher throughout the research, from objectives to methods and outcomes. Drawing on the scholarship in Applied Linguistics and Language Education, this chapter aims to provide a thread covering major concepts, characteristics, stages, and strategies to assist researchers in identifying a research problem. The ultimate goal is to present a step-by-step process towards formulating a specific research question that could lend itself to data collection procedure and even data analysis, which is supposed to be illustrated in the subsequent chapters of the book.

DOI: 10.4018/979-8-3693-2603-9.ch001

WHAT IS A RESEARCH PROBLEM?

Scholars have underscored the role of the research problem with such terms as ‘pivotal’, ‘critical’, ‘prominent’ and ‘difficult’ because of the functions that it undertakes and the challenges that it may pose to researchers in the quest for knowledge (Blaikie, 2000; Bryman, 2007; Jacobs, 2013; Strauss & Corbin, 1998). According to Strauss and Corbin (1998), the research problem plays a critical role in the early stages of an investigation; it contributes to laying the foundation for the entire research project, orientating the researcher’s decision about research design, methods, and strategies.

Researchers may find themselves entangled with many questions when embarking on a research project, many times engrossed and lost in the process with few clues of where to begin in identifying a research problem, and ultimately a research question. One good - perhaps vital - starting point is to ask yourself, “So, after all, what is a research problem?” Since any research project invariably commences with a research problem and culminates in answering a (set of) question(s), or to be more specific - a research question – it is worthwhile to equip yourself with understanding about this concept – the cornerstone of any research project. As inviting and simple as it may sound, it can be mind-boggling as it involves the differentiation of many related - and sometimes conflated - concepts. In what follows, terms including *research field*, *research area*, *research topic*, and *intellectual puzzle* will be presented prior to the discussion of what it means by a research problem along with its components.

Research field refers to “the whole area of research undertaken in a specific scientific discipline” (Pardede, 2018, p.3). In other words, each scientific discipline embodies a research field or a related one. For example, a practitioner teaching English as a Foreign Language (EFL) may find potential research fields such as Linguistics, Applied Linguistics, or Language Education. As illustrated by the examples, a research field is broad as it encompasses issues that invite inquiries in an entire discipline.

Meanwhile, *a research area* is a specific part or section of a research field. According to Pardede (2018), a research area covers “many topics researchers can study in the context of a scientific discipline” (p.3). Some good examples of research areas in the field of Language Education would be teaching English to young learners, implementing technologies in teaching language skills, or applying specific approaches to teaching language. The examples indicate that the scope of a research area is much narrower than a research field which, in essence, is constituted by research areas.

On the other hand, *a research topic* is “the broad subject matter addressed in a study” (Creswell, 2012, p.60). If research areas form a research field, research topics comprise a research area. For instance, in the area of teaching English to young learners, plausible topics can be teaching speaking/pronunciation to children, or applications and their use in teaching English to young learners. Likewise, examples of the research topics in language assessment can be the teachers’ practice of EFL writing assessment or the teachers’ perception of in-class speaking assessment at the tertiary level.

Most practitioners navigate between a theoretical hub and reality, and often find themselves facing an intellectual puzzle. *An intellectual puzzle* is a research issue that may be based “on your own experience and (informed) hunches” (Sunderland, 2010, p.5). In other words, an intellectual puzzle does not stem from theories per se. Instead, it is a conundrum that derives from your practices and your involvement in the workplace, such as the classroom or the laboratory. For example, as a teacher, you might feel that exercises from a specific textbook or a particular technique in teaching almost always go down better with the students than exercises from a different textbook or other techniques, and you are curious to find out why. According to Sunderland (2010), “both topics and puzzles need ‘translating’ into appropriate

Identifying a Research Problem

Table 1.

Quantitative Research Problem Explains or predicts the connections, relations or comparisons between variables Contains independent and dependent variables Measures variables for getting quantified data Tests theories or broad explanations, generalizes results to a large number of people	Qualitative Research Problem Explores, understands, describes, generates, discovers phenomenon Learn and describe individuals' views Assess a process over time Generate theories based on participants' views The results cannot be generalized
--	---

(Adapted from Pardede, 2018, p. 10)

research questions, that is, through careful formal expression, including in terms of accurate, appropriate and productive interrogative wording” (p.5).

Now that we have covered related concepts, including research field, research area, research topic and intellectual puzzle, it is reasonable to proceed with the definition of a *research problem*. According to Boudah (2011), a research problem or phenomenon is *the topic* you would like to address, investigate, or study, whether descriptively or experimentally. It is the focus or reason for engaging in your research. In essence, a research problem is typically “a topic, phenomenon, or challenge that you are interested in and with which you are at least somewhat familiar” (Boudah, 2011, p.24). Inherent in this definition is the need for a certain level of prior knowledge and experiences about the intended research topic from the researcher, which will be discussed later in this chapter when it dwells further into the steps to identify a research problem. This definition of a research problem speaks to the fact that there is a correlation between the researcher’s expertise, the possible contribution of the study and the epistemology of the related research field. For instance, EFL teachers are more likely to take an interest in a study on the use of the dictogloss technique to improve students’ writing as observations on the impact of such technique could have been made by teachers themselves, and they may find it necessary to study further.

It is worth noting that a research problem can be a narrowed-down topic or an intellectual puzzle as long as it lends itself to being investigated or studied. According to Jacobs (2013), research problems are artificial entities that “come together only through the intense efforts of the researcher, who has identified a gap in information or understanding within a topic” (p.104).

Traditionally, research problems are classified into two categories - quantitative and qualitative. Table 1 encapsulates the characteristics while highlighting the differences between these two categories.

Research problems can be a combination of both, i.e. qualitative and quantitative, depending on the purpose of the study. Such are often referred to as mixed method research problems which have achieved prominence in many research fields including Language Education and Applied Linguistics.

Points to Consider

- How important is it for researchers to have a good understanding of the essence of a research problem?
- How can a researcher be better prepared for the initial stages of the research process?

CHARACTERISTICS OF A GOOD RESEARCH PROBLEM

In this section, a checklist of characteristics of a good research problem is elaborated to orient readers to an appropriate path from the initial stages. This is executed with specific instances reflecting the nature of research studies in the liberal arts with an emphasis on the fields of Applied Linguistics and Language Education, highlighting the interdisciplinary traits of research in the present context. Common mistakes made when a research problem is developed will also be discussed in this section as a convincing way to underscore the characteristics of an effective research problem (Walliman & Baiche, 2001).

There can be different sets of criteria delineating the features of a good research problem. In general, the optimal research problem has to be (1) *operationalizable*, (2) *clearly formulated, intellectually worthwhile*, and *researchable*, and (3) *carefully worded and understandable* (Cohen et al., 2007; Mason, 2002; Sunderland, 2010).

- *operationalizable*: there must be a way to tackle the issue raised using appropriate methods to collect and analyze data to answer the questions raised.
- *clearly formulated, intellectually worthwhile, and researchable*: a research problem should be crystallized and cut-and-dry in orienting the researcher in the research process. In other words, the trajectories of the knowledge inquiry process should be mirrored in the research problem.
- *carefully worded and understandable*: a research problem cannot be randomly written; rather, diction has to be meticulously considered so that it is not ambiguous.

In the same line of thought, Walliman and Baiche (2001) contend that a good research problem should be appealing to you. In other words, it should be something captivating and worth your commitment. The problem should also be of great significance and restricted in the field of study as it will help your study be less ambiguous yet more precise and meaningful in increasing and expanding understanding in the research field through the interpretation of data and information in the form of facts or ideas. In addition, the research problem should be formulated clearly and accurately so that the data or information required can be collected and conclusions related to the problem can be reached. The goal(s) and plans to achieve the goal(s) should be projected in a research problem (Walliman & Baiche, 2001, pp.28-29).

In the case of the Mixed Method Research problem (MMR problem) and the characteristics discussed above, Younas et al. (2023) suggest that it should be drawn from an integrated review of qualitative, quantitative, and MMR literature. In addition, a proper MMR problem allows researchers to craft and answer qualitative, quantitative, and MMR questions. This is crucial to a combined approach as the ultimate goal is to approach the issue from different perspectives. Another key criterion, according to Younas et al. (2023), is that it has to highlight the necessity of deploying an MMR problem to readers and other stakeholders. There can be circumstances in which the research problem is not entirely decided by the researcher, and the involvement of institutions or other parties plays a critical role. Therefore, a justification projected in the research statement is required.

Let us consider the instance of a researcher's endeavour to investigate teachers' perception of in-class speaking assessment at some high schools. This is an MMR problem which is highly researchable and pretty well-articulated. The breakdown of the sub-problems in the form of three research questions (*What are teachers' perceptions of in-class speaking assessment? What difficulties are likely to affect teachers' practice of speaking assessment? What resources may the teachers need to practice in-class speaking assessment effectively?*) informs readers not only the concrete and major concepts (i.e. problems) to be

Identifying a Research Problem

addressed but also the possible instruments of data collection to be utilized (which can be a questionnaire, interview and classroom observation). In addition, the diction is simple and understandable without necessarily undermining the academic significance and contribution of the study.

Walliman and Baiche (2001) noted four common mistakes in identifying a research problem. The first is making the choice of a problem “an excuse to fill in gaps in your own knowledge” (Walliman & Baiche, 2001, p.21). This can be a relatively common mistake. As an individual, it is undeniable that our knowledge is limited; yet our lack of insights in an area does not translate into a knowledge void in a related field. There may be a multitude of studies having been carried out, and such a research problem can be futile with regards to its significance. In the same fashion, the research problem that addresses gaps in our own knowledge does not always mean that it is researchable, at least within our capacity. For instance, as an EFL teacher for young learners, you might be passionate about why children do not perform well in speaking tests. This, however, requires not only a mixed method research design but also an interdisciplinary one involving the fields of psychology and language education; which can prove infeasible to undertake given the intricacy of the conundrum.

Another two related errors, according to Walliman and Baiche (2001) is formulating a problem which involves merely a comparison of two or more sets of data and setting a problem in terms of finding the degree of correlation between two sets of data. For example, some might contemplate measuring the impact of a particular application (such as Elsa Speak, FluentU, or HelloTalk) on students’ pronunciation improvement and resort to comparing the results of a pre-test and a post-test (administered before and after the treatment correspondingly) and/or attempting to set up a correlation between students’ performance and the (possible) impacts of using the application. This is questionable because such a comparison is simply not sufficient to ensure the validity and reliability of the data, and thus conclusions cannot be made.

The final and relatively popular mistake is devising a problem to which the answer can be only yes or no. As an illustration, some might ruminate on whether EFL students should employ modality words in their writing or essays. Since the answer is relatively obvious, this research problem is not worth the consideration. As the utmost importance of a study is to expand a body of knowledge, a yes or a no is simply not sufficient in any quest for knowledge. In other words, this is definitely a flaw that should be avoided.

In summary, the mistakes discussed above and others may happen in the process of identifying a research problem. However, that should not hinder the quest for knowledge by doing research. With the guidelines presented in the next section, it is expected that such a scenario can be avoided and that the process of identifying a research problem can take place smoothly.

Points to Consider

- What should be taken into consideration when developing a research problem?
- In what ways can mistakes be avoided when developing a research problem?

IDENTIFYING A RESEARCH PROBLEM

This section delves into the knowhow in identifying a research problem and is supposed to be central to the present chapter. Specifically, this segment touches upon possible sources for reference and consulta-

tion, followed by guidelines to direct researchers to search for a potential problem and then formulate a research problem from initial ideas. The section concludes with how a research problem can be further developed into sub-problems in order to make the research process possible. Specific steps accompanied by relevant examples are provided throughout this section in order to facilitate researchers to practice identifying a research problem.

It is evident that the core of research is the problem. The very first step in the development of a research problem is, therefore, locating *a problem* or *an intellectual puzzle* that needs to be solved (Sunderland, 2010). Then it needs to be clarified so that the potential problem meets the characteristics of a good research problem and becomes operationalizable, well-formulated and researchable. This requires knowledge of the subject and research methodology, which can be obtained prior to the research process but in many cases, should be established and enriched by deeper inquiry in the field (Boudah, 2011). Without expertise and scientific methods, the initial problem is unlikely to lead to success and achievement. The process from coming up with an initial idea to narrowing it down to become something meaningful and researchable is the formulation of a research problem. Novice researchers can seek support along the way from different potential sources, which can be generated from but are not limited to: (1) the researcher's personal experience or area of interests, (2) discussion or consultation with experts, (3) review of previous relevant research, and sometimes (4) demands from work or community (Boudah, 2011; Walliman & Baiche, 2001).

It is worth noting that the sources can be divided into two categories: internal sources, originating from within the researcher and external ones, coming from the outsiders. The identification of a research problem is not necessarily limited to these sources nor follows a predetermined or well-established itinerary. In many cases, for a research problem to be delineated, researchers need to consult and combine different sources or follow interweaving steps. They may sometimes revisit the departure point to make adjustments to the initial idea before continuing, or go back and forth between steps. With that being said, it is invariably useful to have some general guidelines; thus, below is the suggested process that novice researchers may consider to follow.

Searching for a Potential Problem

To find a potential problem, novice researchers can start with the internal source. Although problems can be found from other different sources, the initial problem should stem from researchers' profession or interest. This is observable in the definition of a research problem discussed earlier - "a topic, phenomenon, or challenge that you are interested in and with which you are at least somewhat familiar" (Boudah, 2011, p.24). Indeed, novice researchers, without much specialism and expertise, should start with an initiating idea or a perceived problem area generated from their own experience or area of interest (Walliman & Baiche, 2001). It seems less challenging for researchers to go along with something they have certain prior knowledge of. In addition, doing research requires time and effort to sustain; therefore, interest and enthusiasm can be strong forces to guarantee researchers' commitment (Pardede, 2018). Accordingly, novice researchers should examine their context, workplace, or area of interest, identify the research field and research area, choose a research topic, and then convert the research topic into a potential problem. This is a popular way to find an initial problem.

Following is an illustration of how to search for a potential problem within one's own experience and area of interest. Suppose you are an EFL teacher; your expertise is English language education and your interest is implementing technology in teaching language skills. Then you can select EFL language

Identifying a Research Problem

teaching methodology and technology in education as your research field and research area. You can proceed with narrowing it down to a research topic such as applying scaffolding techniques to EFL students in a blended-learning class. In order for it to become a plausible problem, keep asking yourself such questions as *What is/are the problem(s), controversy or gap between your knowledge and reality?* Answers to these questions are likely to result in an assumption that how you scaffold students in a blended-learning class should differ from that in a face-to-face environment, although at this stage you might not be completely confident about how different it should be. *An intellectual puzzle* then emerges, which requires explanation and exploration. This is a good illustration of how to form an initial problem from your teaching context and your personal interest. In order for the puzzle to become a research problem, further investigation is required to support the “unsolved problem”, which is synonymous with proceeding to another step of the formulation of a research problem.

In addition to the researcher’s personal experience and area of interest, external sources such as demands from work or the community can also trigger a problem to be developed. In other words, the problem derives from the outsiders or is suggested by someone else, and researchers are asked to embark on the research journey. Although this practice saves researchers time searching for an initial idea, there are some potential risks inherent in it. First, the given problem may be far beyond the researchers’ knowledge and expertise, which results in innumerable difficulties they would have to cope with, without a guarantee of their success. Besides, the given problem might fail to stimulate the researcher’s enthusiasm or motivation, which challenges researchers’ commitment throughout the research process. In either case, novice researchers need careful consideration: whether they are able to build up sufficient knowledge of the subject, or whether they can make negotiations for necessary modifications and changes so that the problem better fits their capability and enthusiasm, or both, before going further.

The following situation can be a typical instance of how a potential problem can come from external sources. A funding agency offers a research project on applied linguistics, which requires a longitudinal study using conversation analysis to explore children’s talk-in-interaction. The good point is that both the research problem and methodology are already provided. The challenge, however, lies in the given problem itself. Do researchers have an interest or prior knowledge in applied linguistics? What if the researchers do not know how to conduct a longitudinal study, and/ or if they have never heard of the conversation analysis approach? Answers to the above questions will lead to different possibilities : whether it is feasible to undertake the project or not and what researchers should do if they are determined to go on.

Formulating a Research Problem from Initial Ideas

Now that a potential problem is already available, more understanding of the subject and methods is required to turn it into a meaningful and highly scientific research problem (Boudah, 2011; Walliman & Baiche, 2001). This is the second step of the research problem formulation process. While the first step of problem identification can be derived from either the researcher or outsiders, finding potential external sources for help is crucial in this second step of research problem formulation. At this stage, possible sources for researchers to resort to can be discussion or consultation with experts and review of existing research literature, or a combination of the two.

Firstly, expert consultation is of great importance for researchers. Experts can be senior researchers, the researcher’s supervisor, or specialists in the field of study, etc. With extensive knowledge, experience, and/ or capability in the field, experts are likely to provide researchers with valuable recommendations about research literature and methodology. Talks and discussions with experts are useful since they

can help clarify doubts and sharpen researchers' ideas while building up confidence and motivation for researchers as well.

Another important source to refer to is the literature, which can be divided into "conceptual literature" and "research literature" (Walliman & Baiche, 2001, p. 32). Conceptual literature provides theories, definitions, ideas, opinions, etc. on the subject for research. For example, research on scaffolding students in blended-learning language classes needs scaffolding definition and theory, blended-learning definition and characteristics. Research literature, on the other hand, refers to previous studies and results related to the subject. Reviewing literature helps broaden the researcher's knowledge of the subject, find out the gap between the existing literature and reality, and check if the research problem is clearly formulated, feasible, and intellectually worthwhile, etc.

Patterns of forming a research problem in this step can be: (1) Literature review – Consultation with experts; (2) Consultation with experts - Literature review, (3) Initial literature review - Consultation with experts - Second literature review, or (4) Initial literature review – First consultation with experts - Second literature review – Second consultation with experts, etc. While consultation with different sources is vital, it is not important concerning what to begin with: consultation with experts or doing a literature review. In many cases, researchers combine both sources to strengthen their research problem. Besides, the literature review needs to be attended to continuously throughout the research process, probably with multiple revisions until a highly scientific research problem is developed.

The initial problem of scaffolding students in blended-learning English classrooms will be revisited as an illustration. To go further with this research topic, relevant literature regarding scaffolding theory, blended-learning, and scaffolding in blended-learning classes needs reviewing. Also, previous research on scaffolding and scaffolding in blended-learning classes needs examining to find out what other studies have touched on, which methods they used, which questions/problems have been solved, and if the chosen problem is feasible and operational. Then discussions with experts for the clarification and re-orientation of the research and the research direction are required. If the problem originates from the researcher's interest and expertise, expert consultation can be conducted first, then examining the existing literature review. This can be repeated several times until the research problem becomes clearly formulated.

Developing Sub-Problems from a Formulated Research Problem

Once a research problem has been formulated, another issue emerges concerning how the problem should be disassembled into sub-problems for tackling.

Approaches to organizing sub-problems come in multitudes. One feasible way would be to unpack major concepts relating to the topic and generate sub-problems accordingly. However, as the ultimate goal of a study is to fill in a gap in the ongoing discussion about an academic issue in a related field, it is invariably logical to factor in the broader picture and the significance of the current study. According to Booth et al. (1995, p.40), you can develop the sub-problems by looking at your topic from the four following perspectives. In answering these questions, the researcher should be able to grasp the essence of a research problem by re-examining the issue at hand from different perspectives:

- What are the parts of your topic and what larger whole is it a part of?
- What is its history and what larger history is it a part of?
- What kind of categories can you find in it, and to what larger categories of things does it belong?
- What good is it? What can you use it for?

Identifying a Research Problem

In the same vein, when debunking the concept of the research problem, McMillan and Schumacher (2010) call for attention to three main components: context, significance, and purpose. Context sets the problem in a broader research area, whereas the significance of a problem statement indicates the potential contribution to knowledge and practice after successfully studying the intended problem (McMillan & Schumacher, 2010).

On the whole, research problems entail a comprehensive yet succinct description of a significant issue or concern, which enables testable and observable assumptions to be generated from any phenomenon (Walliman, 2015). Most research problems need to be broken down into smaller problems; otherwise, it can be challenging, or even impossible, to tackle. As such, the short sentences devised during the problem formulation period can give a clue to the presence of sub-problems (Walliman, 2015). Does one aspect have to be researched before another aspect can be begun? For example, suppose you embark on researching the impact of task-based language teaching on EFL students' writing performance. In that case, it is critical to investigate the effects of the task-based lessons designed on students' writing assignment prior to launching a questionnaire and/or conducting interview sessions in order to collect students' opinions about such practice in the classroom. In other words, the sub-problems should delineate the scope of the work and, taken together, should define the entire problem to be tackled as summarized in the main problem. Moreover, these sub-problems can be illustrated in the form of research questions as follows. This phenomenon will be further elaborated in various examples right in the next section.

- Does task-based language teaching influence EFL students' writing performance?
- What are the EFL students' attitudes towards the implementation of task-based language teaching in writing lessons?

FORMULATING A RESEARCH QUESTION

According to Blaikie (2000), establishing a research question can sometimes be challenging yet worthwhile since the process facilitates the researcher to opt for plausible research methods.

After identifying a research problem, it is necessary to convert it into (a) research question(s) or hypothesis/hypotheses. This section is dedicated to the formulation of a research question and hypothesis. It commences with the definition of the concept and the alignment between research aims and research questions. This is followed by a discussion on the characteristics of a good research question, with examples and analysis of different types of research questions. The ultimate goal is to expose researchers to other possibilities and variants when pinpointing a research focus.

Definition

Research questions are of great importance, which lies in their role as the foundation of a study. Their presence guides research methodology, mapping how data collection and data analysis are employed (Sunderland, 2010). As the term itself implies, a research question is a question, not a topic, although it emerges from a research topic (Sunderland, 2010). It transforms the researcher's interest, curiosity, or observation about an issue into a straightforward and well-formulated inquiry and is considered the core purpose of a research project. In terms of language, a research question employs precise, appropriate, and productive interrogative wording (Boudah, 2001).

A hypothesis, on the other hand, is a proposed explanation for a phenomenon. A hypothesis is based on evidence and observation and can be tested through further experimentation or research (Boudah, 2001; Pardede, 2018; Sunderland, 2010). While a hypothesis is usually developed from a research question, not all research questions can be converted into hypotheses. In case a research question can be reconstructed into a hypothesis, it is made by converting a research question into affirmative or negative statements. The negative statement is for a null hypothesis (H_0) to be disproved, whereas the affirmative statement is an alternative hypothesis (H_a) that needs proving (Pardede, 2018). Illustrations of research questions and hypotheses are provided later in this section.

It is worth noting that research questions and hypotheses are developed from a research problem while aligned with the research aim(s). In essence, a research question/hypothesis reflects the research aim(s). It is derived from the objective(s) that the researcher would like to address in a study (Pardede, 2018, p.8). While a research aim provides the general direction of investigation, a research question clarifies it and provides insight into the methods employed (Boudah, 2011). Moreover, when a research question cannot articulate its purpose or the statement becomes too complex, researchers can break it into two or more research questions/hypotheses (Boudah, 2001). In other words, there can be more than one research question and hypothesis for each study, each reflecting part of the research aim(s).

Here is an example of how research questions and hypotheses are developed from the research aim. The revisited research focus is on the use of the dictogloss technique in the teaching and learning of English writing. It aims to identify whether or not there is improvement in students' English writing with the application of the dictogloss technique. Accordingly, the suggested research question is: *Does the dictogloss technique improve students' writing skill?*, and the null hypothesis is *That the use of the dictogloss technique does not improve students' writing skill*. If the null hypothesis is rejected, an alternative hypothesis is accepted; *Using the dictogloss technique improves students' writing skill*.

Following is another instance used to illustrate the process of generating research questions from research aims. Let us revisit the example of a researcher's attempt to investigate teachers' perceptions of in-class speaking assessment at some high schools. The research problem can be broken down into more specific aims such as:

- discover teachers' perceptions of speaking assessment in classrooms in terms of general understanding, task types of in-class speaking assessment and teacher's work involved in the assessment application process.
- explore possible/anticipated difficulties that may prevent teachers from practicing in-class speaking assessment in their classrooms.
- identify necessary resources that may help teachers to have effective practice of in-class speaking assessment.

Accordingly, the research problem can be disassembled into sub-problems represented by research questions, including one primary question (Q1) and two secondary questions (Q2 & Q3) as follows:

Q1: What are teachers' perceptions of in-class speaking assessment?

Q2: What difficulties are likely to affect teachers' practice of speaking assessment?

Q3: What resources may the teachers need to practice in-class speaking assessment effectively?

Identifying a Research Problem

Characteristics of a Good Research Question

The above definition of a research question/ hypothesis simultaneously reveals some criteria or characteristics of a good research question/ hypothesis. According to Boudah (2011, p.24), there are five characteristics of a well-written research question:

- Be specific
- Be clear
- Refer to the problem or phenomenon
- Reflect on the intervention in experimental research
- Note the target group of participants

Therefore, a research question/ hypothesis should be carefully structured so that it is concise, detailed, easily understandable and transparent. Lengthy and complex sentences with too many phrases and clauses are not encouraged. The question/ statement should be relevant, clearly identifying the topic of interest as well as being able to address various aspects of the research, ranging from the purpose and the variables to the population and boundaries. The research question should also be investigative and feasible; that is, it should be answerable with the available resources and within the permitted time frame. Above all, a good research question should be able to articulate the research aim precisely and guide the investigation or research methodology. Examples of good research questions will be provided in the coming part, along with detailed explanations.

Types of Research Questions/ Hypotheses

There are various types of research questions, some basic types of which are descriptive, exploratory, evaluative, relational or causal (Sunderland, 2010). As already discussed, how the research questions are constructed reflects the research methods employed.

Descriptive research questions aim to describe a phenomenon and often begin with *What, Where, When, How* or *To what extent*. For example, *What are the students' attitudes towards the use of the dictogloss technique in the teaching and learning of English writing?*

Exploratory research questions seek to explore a topic or problem. Questions beginning with *Why* such as *Why are English-majored university students struggling with semantics?* are exploratory.

Evaluative research questions measure the effectiveness of a program, intervention, or treatment and often begin with *Do/ Does* or *Is/ Are*. An example is: *Does the use of the dictogloss technique improve the students' writing skill?*

Relational research questions help to examine the relationship between two or more variables. They are often structured as *Is there a relationship between...?* or *What is the relationship between....?*. The question *Is there a relationship between the use of songs and high school students' listening performance in English classes?* is an example of a relational research question.

Causal research questions like *Does A cause B?* seek to establish relationships between two or more variables. An example is: *Do modelling and sampling improve the writing performance of junior college students?*

Regarding a hypothesis, as it predicts the relationship between variables, it can be found in evaluative, causal or relational but not in descriptive or exploratory research. Examples for the three types of research questions above will be further formulated into hypotheses as follows:

Evaluative research question: *Does the use of the dictogloss technique improve the students' writing skill?*

After raising the research questions, the researcher may need to formulate the hypotheses. Hypotheses are especially applied to quantitative research. Like research questions, hypotheses are also classified into different types.

Possible Hypotheses:

H_o : The use of the dictogloss technique does not improve the students' writing skill.

H_a : The use of the dictogloss technique improves the students' writing skill.

Relational research question: Is there a relationship between the use of songs and high school students' listening performance in English classes?

Possible Hypotheses:

H_o : The use of songs does not affect high school students' listening performance in English classes.

H_a : The use of songs affects high school students' listening performance in English classes.

Causal research question: Do modelling and sampling improve the writing performance of junior college students?

Possible Hypotheses:

H_o : Modelling and sampling do not improve the writing performance of junior college students.

H_a : Modelling and sampling improve the writing performance of junior college students.

As discussed earlier, hypotheses are reconstructed from research questions. Each research question can be converted into either form of statements: negative or disproved statement called *Null* hypothesis (H_o) and affirmative or proved statement called *alternative* hypothesis (H_a). It is suggested that novice researchers follow the above steps in the formulation of a research question/ hypothesis to guarantee its characteristics.

CONCLUSION

The chapter has been geared towards both the theoretical and practical aspects in one of the most critical stages of the research process – that of identifying a research problem. With the presentation and analysis of specific instances in tandem with a theoretical framework typical of Applied Linguistics and Language Education, the chapter is expected to have provided researchers and practitioners with a comprehensive set of guidelines on how to identify a research problem in the targeted disciplines, thus enriching the current literature on doing research.

Identifying a Research Problem

Table 2.

No.	Steps and procedures	Questions to ask yourself/ Eliciting questions	Answers/ explanations
1	Searching for a problem	- Which research field/ area are you interested in/ do you have knowledge of? - Which research topic do you wish to focus on? - What problem/ controversy do you encounter?	
2	Finding potential sources for reference	- What are your potential sources for reference? - Which information/ knowledge do you want to clarify?	
3	Selecting (an) appropriate research method(s)	- What is your (research) aim? - Which method(s) is/are appropriate to tackle the problem?	
4	Formulating a research question	- Convert the (research) problem into a (research) question/ hypothesis. - Justify if the research question/ hypothesis meets the characteristics of a good one.	

FOLLOW-UP ACTIVITY

After reading through the chapter, practice identifying a plausible research problem/question by completing the following table.

REFERENCES

- Blaikie, N. (2000). *Designing social research*. Blackwell.
- Booth, W. C., Colomb, G. G., & William, J. M. (1995). *The craft of research*. University of Chicago Press.
- Boudah, D. J. (2011). *Conducting educational research: Guide to completing a major project*. Sage Publications. doi:10.4135/9781483349138
- Bryman, A. (2007). The research question in social research: What is its role? *International Journal of Social Research Methodology*, 10(1), 5–20. doi:10.1080/13645570600655282
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). Routledge. doi:10.4324/9780203029053
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson.
- Jacobs, R. L. (2013). Developing a dissertation research problem: A guide for doctoral students in human resource development and adult education. *New Horizons in Adult Education & Human Resource Development*, 25(3), 103-117. doi:10.1002/nha3.20034
- Mason, J. (2002). *Qualitative researching* (2nd ed.). Sage Publications.
- McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence-based inquiry*. Pearson.

Pardede, P. (2018). Identifying and formulating the research problem. Research Gate. https://www.researchgate.net/publication/329179630_Identifying_and_Formulating_the_Research_Problem

Strauss, A., & Corbin, J. M. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage Publications.

Sunderland, J. (2010). Research questions in linguistics. In L. Litosseliti (Ed.), *Research methods in linguistics* (pp. 9–28). Continuum.

Walliman, N. (2015). *Social research methods: The essentials*. Sage Publications.

Walliman, N., & Baiche, B. (2001). *Your research project: A step-by-step guide for the first time researcher*. Sage Publications.

Younas, A., Durante, A., & Fabregues, S. (2023). Understanding the nature of and identifying and formulating “research problems” in mixed methods research. *Journal of Mixed Methods Research*, 0(0), 1–20. doi:10.1177/15586898231191441

ADDITIONAL READINGS

Christensen, L. B., Johnson, R. B., & Turner, L. A. (2015). *Research methods, design, and analysis* (12th ed.). Pearson.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publishing.

Khoa, B. T., Hung, B. P., & Hejsalem-Brahmi, M. (2023). Qualitative research in social sciences: Data collection, data analysis and report writing. *International Journal of Public Sector Performance Management*, 12(1-2), 187–209. doi:10.1504/IJPSPM.2023.132247

Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd revised edition). New Age International Publisher.

Walliman, N. (2011). *Research methods: The basics*. Routledge.

KEY TERMS AND DEFINITIONS

Research Area: A specific part or section of a research field.

Research Hypothesis: A proposed explanation for a phenomenon.

Research Problem: A problem posing researchers in the quest for knowledge.

Research Topic: A broad subject matter addressed in a study.

Chapter 2

Reviewing the Literature

Anh Thanh Nguyet Le

 <https://orcid.org/0000-0003-1051-4999>

Dong Thap University, Vietnam

Ngan Phan Thu Vo

 <https://orcid.org/0009-0003-6223-8380>

Dong Thap University, Vietnam

Thuy Diem Hong

Dong Thap University, Vietnam

Anh Tram Ngoc Lu

Dong Thap University, Vietnam

Nguyen Thi Cao Bui

Dong Thap University, Vietnam

ABSTRACT

This chapter will cover the principles and procedures for conducting a literature review, following an introduction to the meaning, needs, nature, and objectives of such a review. It is critical for researchers to understand the importance, reasons, and outcomes of literature reviews. One essential step for researchers is to assess whether their topic is researchable before deciding to pursue it. The chapter will then delve into the steps involved in conducting a literature review, which includes searching for existing literature from diverse sources such as books, journals, and the internet, and developing a theoretical and conceptual framework. These steps will be explained in detail in this chapter.

INTRODUCTION

The literature review is acknowledged as a crucial component in a research proposal and research report. It begins with a discussion about the needs and nature of reviewing literature. Then the discussion moves into the meaning and objectives of literature reviews. Subsequently, this chapter will delve into the various

DOI: 10.4018/979-8-3693-2603-9.ch002

steps involved in conducting a literature review. Besides, the process of sourcing literature from diverse sources, which include books, journals, online databases, and Internet sources, will be discussed. This will include a detailed discussion of the advantages and challenges of each source type and how to select the appropriate sources for research. Furthermore, guidance on critically analyzing the literature obtained from these sources will be provided. This will include a discussion of how to determine the relevance of each source to researchers' research questions, how to extract the necessary information, and how to synthesize the information from multiple sources. Moreover, the development of a comprehensive theoretical and conceptual framework will be presented. In addition, guidance on identifying relevant theoretical and conceptual frameworks for researchers' research questions, utilizing them to steer their literature review, and evaluating their suitability for their research question will be introduced.

Each of these steps will be thoroughly explained and illustrated with examples, making it easy for researchers to understand and implement. By the end of this chapter, they will have gained a comprehensive understanding of the best practices for conducting a literature review, which will enable them to conduct a thorough and effective literature review for their research project. Additionally, the literature review can support the researchers and the scholars with four modes, namely focusing on their research topic, enhancing their research methods, broadening their knowledge foundation of their research field, and conceptualizing their research results (Kumar, 2011).

NEEDS AND NATURE OF REVIEW OF LITERATURE

Even though all phases in the process of research are vital, a coherent and organized review of the literature is usually a base for a successful study proposal or outstanding research (Salkind, 2012). A literature review is essential at many stages of research, from developing ideas to proving their validity. It is also a crucial part of ensuring the research is current and new (Salkind, 2012). There are several significant reasons why a literature review is integral to all research. It serves many important purposes that add to a study's educational value and requirements (Creswell & Creswell, 2018).

To begin, one of the primary purposes of the literature review is to set the scene and explain why the study is essential. Creswell (2012) concluded that putting a study in the bigger picture of academics makes it more transparent. By looking at related literature, the researcher can show how their research fits into and adds to ongoing academic discourse. The result will show what exists now and why the research question is essential. This primary step ensures that the paper does not stand alone but makes a natural addition to the field. Second, one of the most important results of a thorough literature study is the discovery of research gaps in previous research, like areas that have yet to be looked into or topics that need to be studied more. Finding these gaps in the knowledge base can help explain why the study is critical by showing how it will fill in these gaps (Booth et al., 2022). This step is vital for moving the field forward and ensuring that the study answers essential questions that must be adequately looked into.

The third basic need that the literature study meets is adding to what is already known. In a book related to doing a literature review by Hart (2018), researchers can offer new views, theories, or models by critically analyzing existing literature. By building on the work of others, researchers make sure that their work does not just repeat what has already been done but also adds value by improving or adding to what is known. Another crucial purpose of the literature review is to help choose a method. Booth et al. (2022) show how a review can support the research plan and methods by showing how they fit in with well-known methods or how the new method is better than the old ones when the old ones do not

Reviewing the Literature

work well. This part is essential for ensuring that the research plan is sound and that the study's method is new and appropriate. Lastly, one of the most significant functions of the literature study is to improve the theoretical foundations. Maxwell (2012) discussed how reviews help build a solid theoretical framework for research designs. The review places the research in a bigger theoretical picture if the study is connected to existing theories or makes the case for a new theoretical approach.

In conclusion, the literature review ensures that research is grounded in the current state of knowledge and makes a meaningful contribution to the field by establishing the context, identifying the research gaps, building on existing knowledge, supporting methodological choices, and improving theoretical foundations (Creswell & Creswell, 2018; Nakano & Muniz, 2018). A literature review is a critical way to move both theory and practice forward by making sure that decisions are based on a large body of data that has been carefully looked over and analyzed. Hence, if a new study is not based on the literature review, it is isolable from the previous research, and may not withdraw the solution of the problem (Singh, 2006).

MEANING OF REVIEW OF LITERATURE

The process of conducting a literature review, as described by Singh (2006), involves two stages. The first stage requires a comprehensive search for all relevant publications about the researcher's topic of interest, followed by a thorough reading and analysis of the findings. This stage serves as the basis for the researcher's current study, incorporating existing views and previous research. The second stage involves writing a chapter that summarizes and synthesizes these ideas, providing valuable insight for both researchers and readers alike (Singh, 2006). This chapter offers a comprehensive background of the research field for researchers, as well as a summary of thoughts and research needs for readers to better understand the study. Hence, researchers must explore two core meanings of reviewing literature via the definition and scope, its role in academic research, and the evolution of literature review practices.

Definition and Scope

In academic writing, a literature review is a crucial document that serves multiple purposes. It summarizes, analyzes, and objectively evaluates published documents such as scientific articles, books, conference materials, and government records. The primary objective of a literature review, as defined by Creswell (2012), is to describe the past and current state of information about the research topic. Similarly, Fink (2014) defines a research literature review as a systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners.

These days, literature reviews serve a wide range of functions. They may aim to briefly synthesize and present the current body of research related to a certain topic, address a review issue, establish the background for further study, or highlight significant gaps in existing literature (Hempel, 2020). Additionally, they may provide some key terms and their usage, as highlighted by Hart (2018). To put it simply, literature reviews are essential in academic writing. They serve as a foundation for research and provide a comprehensive overview of the existing body of knowledge related to a particular topic. Furthermore, they act as a guide for future research, identifying gaps in the existing literature and providing direction for further study (Hart, 2018).

Role of Literature Review in Academic Research

Literature review plays a crucial role in academic research as it enables researchers to identify and evaluate relevant literature related to their research topic (Hart, 2018). By reviewing existing literature, researchers gain a comprehensive understanding of the current state of knowledge in their field and identify gaps or areas for further investigation. Literature review also helps researchers to refine their research questions and hypotheses, and to develop a research methodology that is grounded in existing research (Ridley, 2012).

According to Hart's (2018) research, conducting a comprehensive review of related literature is an essential aspect of both the research method and the research report. It is not merely a step to be taken or an obstacle to be overcome; rather, it involves three distinct components: introduction, literature review, and methodology, each with its objectives. The literature review plays a vital role in showcasing the researcher's library-seeking skills, demonstrating the power of the topic field and providing insight into the issue, as well as advocating for the study's subject, construction, and methodology.

Additionally, Hart (2018) notes that conducting a comprehensive literature review is vital for successful academic research. One of the primary benefits of such a review is to ensure that the subject under study is researchable before proceeding with the research. Novice researchers often tend to believe that conducting more research is always better, leading to broad and impractical ideas. However, the literature review provides a narrowing effect, resulting in focused and more valuable research. By reviewing previously published literature, the researcher gains insight into the gaps in current knowledge and determines the research's feasibility. This, in turn, helps in identifying the research question and formulating the hypothesis. Consequently, a thorough literature review helps the researcher avoid the repetition of previous studies, identify potential research areas, and contribute to the existing body of knowledge (Hart, 2018). Overall, literature review is an essential component of academic research that helps researchers to situate their work within the broader context of existing research and to contribute to the advancement of knowledge in their field (Ridley, 2012).

Evolution of Literature Review Practices

The emergence of the digital age has revolutionized the way literature reviews are conducted, changing the landscape of research entirely. The transition to digital media has completely transformed the processes involved in collecting, analyzing, and disseminating knowledge. With the advent of digital tools and instruments, researchers can engage more actively with literature and collaborate more closely with fellow researchers. This has created a more conducive environment for collaboration, which was once difficult to achieve (Badke, 2017).

The use of digital documents has become increasingly popular, and it is now more in demand than non-digital ones (Milligan, 2022). The wide and immediate diffusion of information from open-access journals and preprint servers has significantly shortened the gap between discovery and publication (Chiarelli et al., 2019). This has made research a lot easier in the digital era, as new methods of gathering and analyzing data have been developed (Milligan, 2022).

According to Yiotis (2013), the Open Access Initiative is a significant contribution to the implementation of unobstructed access to the results of many studies and fairer and morally proper communication of science. However, these technological advancements and societal transformations signify an era of

Reviewing the Literature

dramatic academic change. Digital technology facilitates information discovery by the public but also brings new challenges, such as the assessment of research quality in a large digital information ecology.

As a result, the process of developing new ways of undertaking literature reviews is also an indication of a wider change towards digitization in academic research. This change has heavily transformed the research and publishing world, giving scholars the means to efficiently discover and unite more data than ever before (Snyder, 2019). Researchers must change their research strategies to keep up with the constant changes in the digital space, using digital tools and resources instead of traditional methods like surveys, interviews, and focus groups. This paradigm shift not only provides a more detailed view of the available literature but also encourages the development of new ideas, leading in several cases to a continuous character of this research process itself (Bryda & Costa, 2023).

THE LITERATURE REVIEW

In the academic world, conducting a literature review is a crucial step in any research process. Singh (2006) outlines seven key objectives for conducting a literature review. Each of them is equally important and serves a specific purpose. In the same vein, Cohen et al. (2018) synthesized previous studies and indicated some core goals for researchers to consider when they carry out their research. A literature review should achieve several points as follows:

First of all, the literature review should provide theories, opinions, analyses, or hypotheses that can inform the development of a new research question. This is critical as it enables the researcher to build upon existing knowledge and identify gaps in the literature that can be addressed through their research. Second, the literature review prevents replication of existing work. By reviewing previous studies, the researcher can ensure that their research is original and contributes to the existing body of knowledge. Third, the literature review introduces sources for the researcher to draw upon when creating their research hypothesis. By examining previous research, the researcher can identify key concepts and variables that are relevant to their study and use them to develop their research hypothesis. Fourth, the literature review recommends useful research methods, procedures, data sources, and statistical tools or techniques to address the research problem. This is essential as it ensures that the researcher employs the most appropriate research methodology and analysis techniques for their study. Fifth, the literature review provides an analysis, discussion, and conclusions of earlier studies that can be helpful in the current study. This helps the researcher to contextualize their study and understand how it fits into the broader research landscape. Sixth, the literature review can establish the researcher as an expert and contribute to their scholarship in the field. By demonstrating a deep understanding of the existing literature, the researcher can establish themselves as a thought leader in their area of study. Finally, the literature review provides valuable knowledge for future researchers. By synthesizing existing research, the literature review can identify key areas for future research and guide future studies in the field.

In summary, the literature review serves the functions described above. Each is crucial in ensuring that the research process is rigorous, relevant, and contributes to the existing body of knowledge. Moreover, when researchers conduct those goals in their research, they may enhance their investigation abilities (Singh, 2006).

ASSESSING WHETHER TOPIC IS RESEARCHABLE

When embarking on a research project, it is crucial to consider various factors and conditions to ensure that the study is successful and meaningful (Creswell & Creswell, 2018) as follows. First, researchers must find willing participants who meet the criteria for the study and are willing to take part. This may involve recruiting participants from a particular demographic or population. Second, sufficient resources should be available to conduct the research effectively. This includes access to specialized equipment and computer programs for data collection, processing, and analysis. Additionally, researchers must ensure that they have the necessary skills and expertise to use these resources effectively. Finally, it is vital to ensure that the research topic is relevant and contributes to existing knowledge. This may involve reviewing previous studies in the same field or conducting a literature review to identify gaps in knowledge. Additionally, researchers should consider whether their study aligns with their research interests and beliefs (Cohen et al., 2018). This can help to ensure that the research is personally fulfilling and meaningful. Overall, careful consideration of these factors can help researchers design and conduct successful research projects that make a valuable contribution to their field.

PRINCIPLES AND PROCEDURE IN CONDUCTING A LITERATURE REVIEW

Comprehending the protocol of performing a literature review is paramount for researchers as it enables them to advance pre-existing knowledge and provide context to their discoveries. This establishes the groundwork for their research (Kumar, 2011). Hence, understanding principles before carrying out a study, especially a literature review, plays an important role for the scholars as well as the researchers. First, they should explore philosophical foundations, namely research paradigms. For instance, researchers should begin their study via ontology theory to carefully find the nature of existent cases based on settings of materials, society, culture, and politics (Bracken, 2010; Ejnavarzala, 2019). It means that researchers answer the question “What topic do you focus on?” to seek the true topic of their study. The next step is that they should investigate epistemology theory to consider how theories of knowledge are dealt with (Bracken, 2010). According to Ejnavarzala (2019, p. 94), epistemology solves questions; for example, “What is knowledge?”, “What counts as knowledge”, “How knowledge claims are justified and nature of explanations, subject-object relations, and fact-value relations”. After that, they use axiology – a value theory – to measure their research results. It can be seen that these three theories have a close relationship to make a triangle in which the highest angle is the value of a study. In other words, the relationship between the nature of phenomena and knowledge as well as the relationship between the evidence and the appraisals is extremely important (Ejnavarzala, 2019).

Regardless of the research methodology employed, there are certain universal procedures that ought to be adhered to when conducting a literature review. This entails identifying search terms, locating pertinent literature, meticulously evaluating, and selecting literature, reviewing the chosen literature, devising a literature map, and lastly, drafting the literature review. These steps are as espoused by Creswell (2011, 2014).

Identifying Search Terms

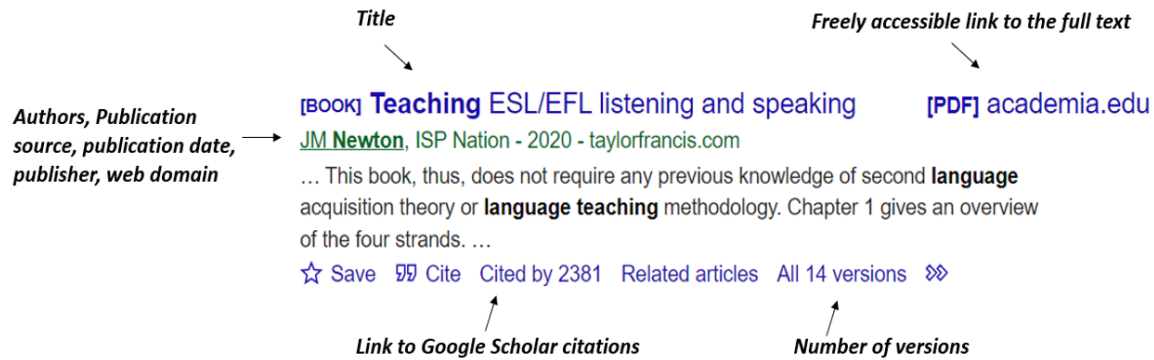
Conducting an effective literature search is a crucial aspect of any research project. To achieve this, it is essential to narrow down your topic using specific keywords or phrases, which facilitates searching for the existing literature (Kumar, 2011). This process involves careful analysis of the research problem, purpose, and questions to identify the central idea of the study. To begin, it is recommended to start by writing the title or research questions first. For instance, a research question like “What are teachers’ beliefs of scaffolding student comprehension through questioning?” can guide the selection of key terms for the literature review. Search terms play a vital role in helping researchers identify relevant studies. In the example above, the key terms are “teachers’ beliefs”, “scaffolding”, and “questioning”. It is essential to use these terms while conducting a literature search, whether manually or using computerized tools. By doing so, researchers can narrow down their search to relevant studies and avoid wasting time on irrelevant ones. Additionally, identifying themes or major ideas from studies is important for them to formulate a research topic in literature (Creswell, 2012). This is one of the functions of the review of the literature. Overall, the process of identifying the right search terms requires careful consideration of the research problem and questions. Researchers should analyze the title, purpose, and research questions to determine the central idea of the study and select the appropriate keywords or phrases to guide their literature search.

Locating Literature

When conducting research, it is important to begin a literature review by searching for relevant sources. There are three types of sources that researchers typically use: general reference tools, primary sources, and secondary sources (Fraenkel et al., 2012). General reference tools are indexes that provide information about the author, title, and place of publication of a published work. These indexes can be found in both paper format and online databases such as ERIC (Education Resources Information Center), CIJE (Current Index to Journals in Education), and RIE (Resources in Education) (Fraenkel et al., 2012). They are helpful in quickly locating a variety of other sources. According to Creswell (2012), primary sources in education mainly involve published journals that report study results conducted by researchers. These sources help researchers get full details of how the research was conducted, the findings, and the viewpoint of the original author. Secondary sources, in addition, summarize the studies of others than the literature review (Creswell, 2012; Onwuegbuzie & Frels, 2016). Examples of secondary sources include textbooks, handbooks, research reviews, educational encyclopedias, government reports, and yearbooks. They provide an overview of previous studies on a topic. Although secondary sources can help locate primary sources, it is best to concentrate on the primary goal of a literature review which ensures the reader can interpret the original results and avoid possible bias from second-hand reports of other researchers’ work (Bolderson, 2008; Fraenkel et al., 2012).

Creswell (2014) suggests that researchers use computerized databases available in academic libraries and on the Internet for reviewing literature. Academic libraries around the world have a variety of databases that researchers can explore by going there directly or searching through digital or online systems. Additionally, researchers can search the World Wide Web (WWW) for information. The WWW provides a wealth of information for research (Fraenkel et al., 2012; Salkind, 2012). Searching the WWW has several benefits. For instance, researchers can easily obtain the latest information about a given topic on the Internet within a short period. Also, researchers can access various materials with different formats,

Figure 1. Google Scholar's bibliographic fields in the results page



such as text, sound, and video. More importantly, the Internet is available 24/7, and information can be read immediately on a computer or saved for later study. However, due to the vast amount of information on the Internet, it is not well organized, and researchers require good online searching skills. Despite the advantages, there are certain drawbacks to using the Internet as a source. The lack of reliability is one of the major drawbacks, as information can be easily published on the Internet, and researchers may find it difficult to evaluate the reliability of the material. Creswell (2011) suggests that researchers can determine the credibility of the material by considering whether it was written by well-known authors who have published in quality journals. It is also important to determine if the online journal has the quality of publications with a peer review board.

Another free database available on the Internet is Google Scholar (<http://scholar.google.com>) which can provide a variety of scholarly literature, namely peer-reviewed papers, theses, books, abstracts, and articles from academic organizations (Creswell, 2014). Also, Google Scholar has no restrictions on document type, source, and languages. Examples of details for the bibliographic data of a book are presented in Figure 6.2.1.

As can be seen, researchers can promote their access to reliable literature and information thanks to Google Scholar since this academic web search engine can identify highly cited papers (Martín-Martín et al., 2017). Additionally, the researcher can be supplied with links to abstracts, related articles, and opportunities to purchase the full text in a Google Scholar search (Creswell, 2014). However, Google Scholar should be used as a supplement to search through academic databases as the factors including the publication date or the number of versions are sometimes considered as malfunctions of this search engine (Fraenkel et al., 2012; Martín-Martín et al., 2017).

Additionally, researchers can ask their supervisor or a faculty member in their program if they think that the material is reliable enough to be part of their literature review. The information on the Web can be categorized into indexes, similar to how libraries group the same information resources. Therefore, while the Internet can be a valuable resource for researchers, it is important to exercise caution and exercise good judgment when evaluating the reliability of the information found online.

One more important thing is that researchers should use some popular citing tools in locating the literature process in their research, including EndNote, RefWorks, Zotero, and Mendeley. All four products can save references in one place, export citations immediately from databases, create bibliographies and citations in APA, MLA, etc., integrate with the library's e-collections, collaborate with other users as well as make social networking. More specifically, EndNote with hundreds of fixed citation forms

Reviewing the Literature

brings some merits to researchers' study flow and development. Meanwhile, Mendeley owns the most dominant web page and association platform. It is suitable for PDF files because it possesses a blended PDF viewer as well as builds citation records via utilizing a browser extension. Besides, Zotero is used for a variety of study content because of its open source. Of the four tools, RefWorks is the only web-based reference control instrument in which researchers can formulate, save, and split their references as writing and cooperating with others (Ivey & Crum, 2018).

Critically Evaluating and Selecting the Literature

After identifying search terms and locating resources, researchers should assess the quality of the literature and determine if it is relevant to their study. According to Creswell (2011), high-quality literature includes journal articles published in national journals that are reviewed and evaluated by national reviewers or editorial board members. It is best to search for both quantitative and qualitative research studies to get a comprehensive understanding of the topic.

To select relevant literature for a review, researchers should consider four criteria. These include topic relevance, individual and site relevance, problem and question relevance, and accessibility relevance, as noted by Creswell (2012). Topic relevance helps to determine if the literature covers the same topic as the researcher's study. Individual and site relevance checks if the literature focuses on the same individuals and sites. Problem and question relevance examines if the literature has the same research problem and research questions. Accessibility relevance checks if the literature is available in the researcher's library or easily downloadable from a website.

Fraenkel et al. (2012) suggest that researchers should read the abstract first to determine if the article is worth reading the whole document and can contribute to the understanding of the literature. The researchers should then read the rest of the literature and quickly take notes using a note-taking tool (electronic, manual, or a hybrid) since most research articles have the same format: an abstract, an introduction, the research problem and questions, the objectives of the study, related studies, the research methodology, findings, and the conclusions.

Reviewing the Selected Literature

During the literature review process, one of the most important steps is to carefully examine the selected records. This involves identifying key information and classifying them based on relevant subjects. As per Salkind's (2012) research, a well-structured literature review provides a solid framework for researchers to address their research questions effectively. By evaluating additional materials, relevant data about the outcomes is discovered and analyzed under each specific subject area. This enables researchers to establish a strong theoretical foundation for their study, which is crucial for developing a comprehensive understanding of the research topic. Through this process, researchers can gain valuable insights into the existing research and identify any gaps in knowledge that need to be addressed. Ultimately, a well-executed literature review is a critical component of any research project and can significantly contribute to its success.

Developing a Theoretical Framework

Organizing information according to key themes or theories is critical to effectively analyze it from various sources, especially in research studies (Creswell, 2012). This process creates a theoretical framework that serves as a roadmap for researchers to navigate through the vast amounts of information available. By using this framework, researchers can determine which information is relevant and which can be discarded. The theoretical framework is a crucial component of any research study as it helps researchers to remain focused on the research problem, its objectives, and the research questions. Moreover, it guides researchers to select appropriate research methods, data collection techniques, and data analysis procedures. It is important to note that the theoretical framework is not set in stone and can be adapted as new information and insights are discovered during the research process. The process of developing a theoretical framework involves considering theories that explain the relationship and implications of the research topic. According to Kumar (2011), the development of a theoretical framework involves a critical review of the literature, identifying gaps, and formulating hypotheses.

Developing a Conceptual Framework

Kumar (2011) posits that in any research study, the research problem's foundation is rooted in the conceptual framework, which, in turn, is derived from the theoretical frameworks. The theoretical framework is all-encompassing as it covers all the theories that are relevant to the research area, while the conceptual framework is centered around the core of the study, which pertains to the specific research problem being investigated. In other words, the theoretical framework serves as a foundation for the conceptual framework, which, in turn, guides the research study's direction by providing a framework for the development of research questions, hypotheses, and methodology. Thus, it is essential to identify and articulate these frameworks as they provide a comprehensive understanding of the research problem and its context, leading to more robust and valid research outcomes.

Developing a Priority for Types of Literature to Review

In his publication from 2014, Creswell suggests a number of steps that researchers can take to enhance the quality of their literature review process. Firstly, if they are unfamiliar with the topic they are investigating, they should begin by reading syntheses, overviews, summaries, or abstracts of relevant literature to gain a better understanding of the subject matter. This will help them to identify the most important concepts and themes associated with the topic. Secondly, researchers should start their search by examining the most recent articles, chapters, and books, as well as research that is related to their topic. This will help them to stay up to date with the latest developments in their field of study. Moreover, they should pay special attention to references at the end of articles, chapters, or books as these can serve as a potential source of further investigation. Thirdly, searching for conference papers and contacting authors for support can be a helpful approach. Researchers may find that conference papers provide valuable insight into recent research findings and emerging trends, and they should consider reaching out to authors of relevant articles to gain further insight into specific topics. Lastly, dissertation abstracts and websites can also provide valuable references for literature reviews. Researchers can consult these resources to identify relevant studies and to gain a better understanding of the methods and techniques that have been used in previous research. By following these steps, researchers can ensure that their literature review

Reviewing the Literature

process is thorough and comprehensive and that their work is based on the most current and relevant research available.

Designing a Literature Map

When researchers embark on a new study, one of the first steps they take is to identify relevant literature. Once they have identified this literature, they need to read it quickly and organize it in a way that makes sense for their study. This involves arranging the available literature to fit the overall literature and creating a visual representation of the literature known as a literature map. Creswell (2014) stresses that the literature map helps researchers to see the overlap of selected literature and illustrates the position of their study within the existing literature, ensuring that previous work is not duplicated.

Creswell (2014) suggests three models of the literature map. The first model is a hierarchical structure with a top-down presentation of the literature. In this model, the researcher places the most important literature at the top and the least important literature at the bottom. The proposed study is positioned at the bottom of the hierarchy. The second model is a flowchart that presents the literature from left to right. In this model, the researcher places the literature on the left side of the chart, with the future study located on the right side of the flowchart. The third model is a circular design in which each literature is presented in each circle. The interconnecting circles show the proposed study, and the researcher can see how the literature fits together in a circular pattern. By creating a literature map, researchers can better understand the literature they have selected and how it fits into their overall study. This helps them avoid duplicating previous work and ensures that their study makes a unique contribution to the existing literature.

Reporting Review of Literature

Literature reviews are an essential component of research studies. They provide an in-depth examination and analysis of existing literature on a particular research topic. Literature reviews typically consist of five essential parts: introduction, body, summary, conclusions, and reference list (Fraenkel et al., 2012).

In the introduction section, the researcher presents the research problem and research questions, as well as the reasons that led them to conduct the study. The researcher also highlights the significance and relevance of the research topic for the field of study (Bolderston, 2008). Next, the body section is the most extensive and critical part of the literature review. It presents a comprehensive review of previous research studies conducted in the area. Researchers categorize the reviewed literature under appropriate subheadings, such as methodology, findings, limitations, and future research. These subheadings should be descriptive of the theme in question and arranged logically (Kumar, 2011). The body also highlights any gaps in the previous research that the current study aims to fill. Additionally, the summary section compares and contrasts the findings of the reviewed studies. Researchers identify the similarities and differences in the results of previous research studies. They also discuss the implications of these findings for the current research study (Fraenkel et al., 2012). Furthermore, the conclusions section presents the researcher's judgments and interpretations of the reviewed literature. Researchers draw conclusions based on the information presented in the review, highlighting any new insights gained from the reviewed literature. Finally, a reference list (or bibliography) is included to document all the sources used in the review. Researchers should follow a proper style guide, such as the APA Publication Manual, when for-

matting the reference list (Fraenkel et al., 2012). It is crucial to provide accurate and complete citations to give credit to the sources used in the literature review.

CONCLUSION

A literature review is an important step in carrying out research. It is a systematic and comprehensive analysis of existing literature relevant to a particular research topic. The purpose of a literature review is to demonstrate the theories and findings from previous studies related to the current research topic. Additionally, it provides a theoretical and conceptual framework by comparing it with other previous studies. To conduct a literature review, researchers must first identify relevant keywords related to their research topic. These keywords are then used to search for materials in academic libraries and virtual databases. Researchers should also consider the date range of the materials to ensure that they are up-to-date and relevant. Once researchers have identified relevant materials, they should create a literature map. This is a visual representation of the relationships between the materials and how they connect to the research topic. Researchers should then analyze and summarize the materials to identify the strengths, limitations, and gaps. It is essential to identify the gaps in existing literature to determine the research questions that need to be addressed. Finally, researchers use the findings from the literature review to write a comprehensive and well-organized literature review. A literature review should include an introduction that provides an overview of the research topic, a discussion of the relevant theories and findings from previous studies, an analysis of the strengths, limitations, and gaps in the existing literature, and a conclusion that summarizes the key findings. A well-written literature review is an essential component of any research project, as it provides a solid foundation for the research questions and hypotheses.

REFERENCES

- Badke, W. (2017). The Literature Review in a Digital Age. *Online Searcher*, 41(3), 57–59.
- Bolderston, A. (2008). Writing an Effective Literature Review. *Journal of Medical Imaging and Radiation Sciences*, 39(2), 86–92. doi:10.1016/j.jmir.2008.04.009 PMID:31051808
- Booth, A., Sutton, A., Clowes, M., & Marrison, M.-S. J. (2022). *Systematic approaches to a successful literature review*. SAGE Publications.
- Bracken, S. (2010). Discussing the Importance of Ontology and Epistemology Awareness in Practitioner Research. *Worcester Journal of Learning and Teaching* (4). <https://eprints.worc.ac.uk/id/eprint/843>
- Bryda, G., & Costa, A. P. (2023). Qualitative Research in Digital Era: Innovations, Methodologies and Collaborations. *Social Sciences (Basel, Switzerland)*, 12(10), 570. doi:10.3390/socsci12100570
- Chiarelli, A., Johnson, R., Pinfield, S., & Richens, E. (2019). Preprints and Scholarly Communication: Adoption, Practices, Drivers and Barriers. *F1000Research*, 8(2), 971. doi:10.12688/f1000research.19619.1 PMID:32055396
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8th ed.). Routledge., doi:10.4324/9781315456539

Reviewing the Literature

Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (4th ed.). Pearson Education.

Creswell, J. W. (2012). *Educational research*. Pearson.

Creswell, J. W. (2014). *Research designs. Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publication.

Ejnavarzala, H. (2019). Epistemology–Ontology Relations in Social Research: A Review. *Sociological Bulletin*, 68(1), 94–104. doi:10.1177/0038022918819369

Fink, A. (2014). *Conducting research literature reviews: From the internet to paper*. SAGE Publications.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). McGraw-Hill Humanities.

Hart, C. (2018). *Doing a Literature Review: Releasing the Social Science Research Imagination*. SAGE Publications.

Hempel, S. (2020). *Conducting Your Literature Review*. The American Psychological Association., doi:10.1037/0000155-000

Ivey, C., & Crum, J. (2018). Choosing the Right Citation Management Tool: Endnote, Mendeley, RefWorks, or Zotero. *Journal of the Medical Library Association: JMLA*, 106(3), 399–403. doi:10.5195/jmla.2018.468

Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners* (3rd ed.). SAGE Publication.

Ma, L., Xu, X., & Tan, Y. (2024). Crafting Knowledge: Exploring the Creative Mechanisms of Chat-Based Search Engines. *SSRN Electronic Journal*. doi:10.2139/ssrn.4729503

Martín-Martín, A., Orduña-Malea, E., Harzing, A. W., & López-Cózar, E. D. (2017). Can we use Google Scholar to identify highly-cited documents? *Journal of Informetrics*, 11(1), 152–163. doi:10.1016/j.joi.2016.11.008

Maxwell, J. A. (2012). *Qualitative research design: An interactive approach*. SAGE Publications.

Milligan, I. (2022). *The Transformation of Historical Research in the Digital Age*. Cambridge University Press. doi:10.1017/9781009026055

Onwuegbuzie, A. J., & Frels, R. (2016). *Seven Steps to a Comprehensive Literature Review*. SAGE Publication.

Ridley, D. (2012). *The Literature Review: A Step-by-Step Guide for Students*. SAGE Publication.

Salkind, N. J. (2012). *Exploring research* (8th ed.). Pearson Education.

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. doi:10.1016/j.jbusres.2019.07.039

Yiotis, K. (2013). The Open Access Initiative: A New Paradigm for Scholarly Communications. *Information Technology and Libraries*, 24(4), 157–162. doi:10.6017/ital.v24i4.3378

ADDITIONAL READINGS

Greetham, B. (2021). *How to Write Your Literature Review*. Macmillan Education.

Harris, D. (2020). *Literature Review and Research Design: A Guide to Effective Research Practice*. Routledge.

Lingard, L. (2018). Writing an effective literature review: Part I: Mapping the gap. *Perspectives on Medical Education*, 7(1), 47–49. doi:10.1007/S40037-017-0401-X PMID:29260402

Oliver, P. (2012). *Succeeding With Your Literature Review: A Handbook for Students*. McGraw-Hill Education.

KEY TERMS AND DEFINITIONS

Literature Review: A literature review is a piece of academic writing demonstrating knowledge and understanding of the academic literature on a specific topic placed in context. A literature review also includes a critical evaluation of the material; this is why it is called a literature review rather than a literature report.

Objective: Something that you plan to do or achieve.

Nature: The type or main characteristic of something.

Evolution: How living things change and develop over millions of years.

Principle: A basic idea or rule that explains or controls how something happens or works.

Ontology: The part of philosophy that studies what it means to exist.

Epistemology: The part of philosophy that is about the study of how we know things.

Axiology: The philosophical study of goodness, or value.

Procedure: a Set of actions that is the official or accepted way of doing something.

Bibliographic Data: Commonly includes titles, names, subjects, notes, publication data, and information about the physical description of a document.

Framework: A system of rules, ideas, or beliefs that are used to plan or decide something.

Theoretical: Based on the ideas that relate to a subject, not the practical uses of that subject.

Conceptual: Based on ideas or principles.

Map: A simple plan that represents a more complicated thing, system, or idea.

Chapter 3

Qualitative and Quantitative Approaches

Kham Bao

 <https://orcid.org/0000-0002-0032-2451>

University of Foreign Languages and International Studies, Hue University, Vietnam

ABSTRACT

This chapter aims to examine the qualitative and quantitative approaches dialectically from the two perspectives: disparity and complementarity. While the disparity perspective addresses the polarization of these two paradigms, the complementarity deals mainly with the interaction of these paradigms. These two perspectives are explained thoroughly on the philosophical assumptions and practical features. The chapter also examines the three different approaches that emerge from their interaction: qualitative, quantitative, and mixed methods. These approaches are logically explicated in terms of both characteristics and influential factors regarding their choice.

INTRODUCTION

A Brief History

White & Cooper (2022) claim that the polarization between qualitative and quantitative research approaches has a complex history that reflects broader philosophical debates about the nature of reality and how it can be understood. According to the researchers, the whole history experiences five different development stages. The origins of qualitative research can be traced back to ancient Greece, where philosophers engaged in forms of inquiry that sought to understand the essence of things beyond mere numbers or measurements. This tradition laid the groundwork for qualitative methods that focus on understanding meaning, context, and the complexity of human experience. With the appearance of positivism in the 19th century, which emphasized empirical evidence and the scientific method, quantitative research became the dominant paradigm. As Sheppard (2020) explicates, this approach, rooted in the natural sciences, sought to discover universal laws through objective measurement and statistical analysis. Throughout the 20th century, the social sciences witnessed a divergence of methodologies as

DOI: 10.4018/979-8-3693-2603-9.ch003

researchers debated the merits of quantitative versus qualitative approaches. As Ercikan & Roth (2006) remark, the quantitative researchers argued for the generalizability and objectivity of their methods, while qualitative researchers emphasized the depth, richness, and context-specific insights their methods provided. By the late 20th century, the usefulness of this polarization was questioned according to Ercikan & Roth (2006), as the dichotomy was limiting and a more integrated approach, using both qualitative and quantitative methods, could provide a fuller understanding of research questions. Today, there is a growing recognition of the value of methodological pluralism. Researchers are increasingly adopting mixed methods, combining qualitative and quantitative approaches to leverage the strengths of both. This shift reflects an understanding that complex social phenomena often require multiple lenses to be fully understood (Ercikan & Roth, 2006; Lockyer, 2008; Brinkman, Jacobsen & Kristiansen, 2014). In general, the history of the polarization between qualitative and quantitative research is marked by shifts in philosophical thought, methodological preferences, and practical considerations in the pursuit of knowledge. While the debate continues, there is a clear trend towards recognizing the complementary nature of both approaches.

The Qualitative – Quantitative Dichotomy: Disparity and Complementarity

The qualitative-quantitative distinction which has been widely documented in the research literature (Ercikan & Roth, 2006; Dornyei, 2007; Hartas, 2010; Creswell & Clark, 2011; Paltridge & Phakiti, 2015; Creswell & Creswell, 2023) demonstrates an evident development pathway characterized by the two major features of disparity and complementarity.

An exploration into qualitative and quantitative research approaches reveals a fundamental disparity rooted in their philosophical underpinnings, data collection techniques, and analytical processes (Dornyei, 2007; Creswell & Creswell, 2023). Quantitative research, often associated with the positivist tradition, seeks to quantify phenomena by translating them into numbers and statistics, thus enabling the testing of theories and the establishment of generalizable facts. In contrast, qualitative research, grounded in constructivist and interpretivist perspectives, delves into understanding concepts, thoughts, or experiences through words and meanings, providing in-depth insights into subjects that are not well understood.

This disparity is not merely technical but reflects a deeper epistemological divide (Hartas, 2010). With its structured and objective approach, quantitative research aims to answer “what” questions by exploring statistical relationships and patterns that can be generalized across populations. On the other hand, qualitative research, with its flexible and subjective approach, seeks to answer “why” and “how” questions by exploring patterns and themes that emerge from detailed narratives and observations.

The choice between qualitative and quantitative methods often depends on the research question at hand (Creswell & Clark, 2011). While quantitative methods are invaluable for confirming hypotheses and establishing patterns, qualitative methods are essential for developing theories and understanding complex phenomena. Despite their differences, both methodologies have their place in research, and an integrated approach that employs both can provide a more comprehensive understanding of the research topic.

In Applied Linguistics, as Paltridge & Phakiti (2015) indicate quantitative methods might be used to measure language proficiency or the effectiveness of teaching methods, while qualitative methods might be employed to understand the experiences of language learners or the cultural nuances of language use. The disparity between these approaches is a reflection of their distinct goals: quantitative research seeks to measure and predict, while qualitative research seeks to understand and interpret.

Qualitative and Quantitative Approaches

As the field of research evolves, there is a growing recognition of the value of both qualitative and quantitative methods. The integration of these methodologies, known as mixed methods research, leverages the strengths of both to provide richer and more nuanced insights than either could alone.

Based on the overview of the historical and characteristic aspects of the two paradigms, the following sections will delve into the detailed description of three different approaches, qualitative, quantitative, and mixed, and the examination of related factors affecting the choice of a certain research approach.

THE QUALITATIVE APPROACH

Philosophical Assumptions

The qualitative paradigm, rooted in the constructivist perspective, offers a unique approach to understanding reality and knowledge. This perspective acknowledges the existence of multiple realities, shaped by local and specific contexts, and emphasizes the co-construction of knowledge through relationships. Constructivists actively seek diverse perspectives, often through multiple interviews, to gain a comprehensive view of these realities.

Ontologically, constructivism views reality as multifaceted, encouraging researchers to explore various perspectives from participants. For example, Creswell & Clark (2011) highlight the importance of capturing multiple viewpoints to construct a more holistic understanding of reality. Similarly, Phakiti & Paltridge (2015) discuss relativism, suggesting that realities are constructed locally and specifically, with an emphasis on the co-construction of knowledge.

Epistemologically, the qualitative paradigm focuses on the subjective meanings individuals create from their experiences, which are shaped through interactions with others and their environment. Hartas (2010) notes that this approach values diversity in meanings and challenges mechanistic views of social reality.

Axiologically, the qualitative paradigm is inherently biased, as it is deeply intertwined with human experience and interpretation. Creswell & Clark (2011) acknowledge this bias, indicating that researchers' values inevitably influence their work.

Methodologically, research within the qualitative paradigm is conducted from the "bottom" up. Creswell & Clark (2011) show that researchers use participants' views to build broader themes and generate theories that interconnect these themes.

In summary, the qualitative paradigm offers a comprehensive framework for exploring the complexities of human experience and knowledge, valuing the richness of diverse perspectives and the depth of subjective meanings.

The Qualitative Approach in Practice

In qualitative research, the approach is constructed from the ground up, beginning with individual perspectives and culminating in broad understandings (Creswell & Clark, 2011). This bottom-up method involves researchers visiting participants in their natural settings to gather data, which allows for a more personalized and in-depth exploration of the subjects' experiences (Creswell & Clark, 2011; Johnson & Christensen, 2017). During this process, researchers are encouraged to openly discuss their biases and interpretations to maintain transparency and reflexivity.

Creswell & Creswell (2023) further explain that qualitative researchers place themselves at the center of the study, focusing intensively on a single concept or phenomenon. They bring their personal values into the study, which enriches the analysis. The context or setting of the participants is meticulously studied to gain deeper insights. Researchers ensure the accuracy of their findings through rigorous methods and make interpretations of the data that are both insightful and substantiated. Collaboration with participants is crucial for gathering authentic data, and text analysis procedures are employed meticulously to derive meaningful conclusions from verbal or written responses. This comprehensive approach ensures that the study is grounded in the reality of the participants' experiences, providing a rich and nuanced understanding of the phenomenon under study.

To help gain a deeper understanding of this approach, specific studies are selected to illustrate some of its typical features such as inductive reasoning, constructivism, holistic perspective, and subjectivity.

A study by Pavlenko (2001) explores the emotional experiences of bilingual individuals. The research begins with open-ended interviews, allowing participants to share their personal narratives. From these narratives, Pavlenko identifies patterns and themes related to language and emotion, ultimately theorizing about the emotional impact of bilingualism. A study by Norton (2000) investigates the language learning experiences of immigrant women in Canada. Through participant observation and interviews, Norton explores how these women constructed their identities in relation to their language learning process. The study reveals that language learning is deeply intertwined with identity formation and social interactions.

An ethnographic study by Canagarajah (1993) examines the communication strategies of Tamil students in a multilingual community in Sri Lanka. By observing and participating in the daily lives of the students, Canagarajah provides a holistic view of how language and communication practices are shaped by social, economic, and political factors. A narrative inquiry by Kanno (2003) looks into the lives of Japanese returnee students. Kanno's own experiences as a returnee add depth to her understanding of the students' struggles with language and identity. This subjectivity allows for a richer interpretation of the data, acknowledging the researcher's role in the research process.

These studies exemplify the qualitative approach in Applied Linguistics, demonstrating how researchers can gain a deeper understanding of language-related phenomena by focusing on the meanings people attribute to their experiences.

THE QUANTITATIVE APPROACH

Philosophical Assumptions

The quantitative paradigm is a research approach grounded in the positivist perspective, which asserts that reality can be objectively measured and understood. This paradigm is structured around several philosophical assumptions. Ontologically, positivism views reality as both experienced and observed, and it is significantly shaped by language or discourse (Hartas, 2010). Reality is independent of the observer, remaining constant regardless of who examines it or when and how it is examined (Phakiti, 2015).

Epistemologically, this philosophical perspective suggests that knowledge can be acquired through direct observation or the deduction of causal relationships, which are socially constructed (Hartas, 2010). This aligns with the emphasis on empirical evidence and measurable phenomena.

Axiologically, as per Creswell & Clark (2011), this perspective approaches values as unbiased, advocating for an objective stance in research to ensure the validity of findings.

Qualitative and Quantitative Approaches

Methodologically, postpositivist research follows a top-down approach, starting with a theory from which hypotheses are derived (Creswell & Clark, 2011). Data is then collected to either support or contradict the theory. This structured approach to inquiry emphasizes hypothesis testing and empirical validation, reflecting the positivist belief in the measurability and objectivity of reality.

The Quantitative Approach in Practice

The quantitative approach in research is a methodological framework that reflects various aspects of the positivist perspective, such as determinism and cause-and-effect thinking, reductionism, empirical observation and measurement, theory testing and refinement, bias elimination, and deductive approach.

The quantitative approach is anchored in determinism, the belief that events are not random but caused by specific factors. As Creswell & Clark (2011) emphasize, this cause-and-effect thinking is pivotal, as it allows researchers to hypothesize and predict outcomes based on identified variables. By understanding these relationships, researchers can establish patterns and regularities in human behavior and natural phenomena.

This concept involves distilling complex systems into simpler components for study. In quantitative research, as explicated by Creswell & Clark (2011), this means isolating specific variables that are believed to influence the subject under investigation. By focusing on these variables, researchers can conduct in-depth analyses and draw conclusions about how these elements interact.

These researchers note that central to the quantitative approach is the collection of data through empirical observation and measurement. This process involves using tools and instruments that provide numerical data, which can be objectively analyzed using statistical methods. The emphasis on measurement and quantification allows for greater precision and replicability in research findings.

The researchers also emphasize that quantitative research is a dynamic process where theories are continually tested against empirical data. This iterative process involves formulating hypotheses, conducting experiments or surveys, collecting data, and analyzing results to confirm or refute theoretical propositions. Through this cycle, theories are refined, and knowledge is advanced.

Recognizing the potential for bias, according to Creswell & Clark (2011), quantitative researchers employ various strategies to ensure objectivity. These include using standardized instruments, random sampling, control groups, and statistical controls. Such measures help to ensure that the findings are a result of the studied phenomena rather than the researcher's subjective bias.

Positivism informs the deductive approach in quantitative research, where researchers test specific hypotheses derived from broader theories. As clarified by Creswell & Clark (2011), this approach is systematic and logical, starting with a general theory and moving towards specific observations to confirm the theory. Much later, Creswell & Creswell (2023) created a new framework that outlines a structured approach to quantitative research, emphasizing the identification and study of specific variables. Researchers formulate questions or hypotheses around these variables, apply standards of validity and reliability, and observe and measure information numerically. Unbiased approaches and statistical procedures are employed to analyze the data, ensuring that the research findings are objective and can contribute to the existing body of knowledge.

This detailed exploration of the quantitative approach underscores its commitment to systematic inquiry, empirical evidence, and the pursuit of objective knowledge within the scientific community. For further illustration, the following examples are chosen to showcase such characteristic features as cause-effect thinking, reductionism, and bias elimination.

A study conducted by Phakiti (2015) study investigated the relationship between the use of language learning strategies and test performance among English as a Foreign Language (EFL) learners. The findings suggest that strategic competence, which includes both cognitive and metacognitive strategies, has a significant impact on reading test performance. The study employs structural equation modeling to demonstrate the cause-and-effect relationships between strategy use and test outcomes.

A study conducted by Plonsky (2015) on second language acquisition employing reductionism by isolating specific learner variables to understand their impact on language learning outcomes focuses on advancing quantitative methods in second language research. The study emphasizes the importance of statistical power, effect sizes, and meta-analysis in understanding the effects of specific learner variables on language learning outcomes.

A review research conducted by Burroughs et al. (2019) shows that various quantitative studies on teacher factors tend to employ bias elimination checks to ensure objectivity, reflecting the major characteristic of the quantitative approach. The study synthesizes findings from various quantitative studies that use random sampling and control groups to assess the impact of teacher factors such as experience, professional knowledge, and opportunity to learn on student achievement.

THE MIXED-METHODS APPROACH

Philosophical Assumptions

The mixed-methods approach is a methodological stance that integrates qualitative and quantitative research techniques. Johnson & Christensen (2017) advocate for pragmatism as the foundational philosophy of this approach. Pragmatism emphasizes the practical application of research methods and the value of using both qualitative and quantitative data to address complex research questions. This philosophy supports the idea that research should be driven by its potential to solve real-world problems, rather than by the constraints of methodological purism.

Contrastingly, Creswell & Clark (2011) argue that the mixed-methods approach is not exclusively tied to pragmatism. They suggest that researchers can adopt different worldviews, such as transformative-emancipatory perspectives, depending on the context of the study. According to them, the choice of a worldview should be informed by the type of mixed methods design being implemented or the norms of the scholarly community conducting the research. This perspective opens up the possibility for a more diverse application of mixed methods, tailored to the specific needs and goals of individual studies.

The Purposes of the Mixed-Methods Approach

The mixed-methods approach serves several key purposes in research, as identified by Greene, Caracelli & Graham (1989), and further described by Ary et al. (2014), including (i) triangulation, (ii) complementarity, (iii) development, (iv) initiation, and (v) expansion.

Triangulation involves collecting, analyzing, and merging results from different sources to comprehensively understand a research problem. It encompasses data triangulation, methodological triangulation, investigator triangulation, and theoretical triangulation, each offering a unique lens through which to view the data.

Qualitative and Quantitative Approaches

Complementarity aims to use the results from one method to enhance or clarify the findings from another. This could involve using qualitative data to provide context to quantitative results or vice versa.

The purpose of development is to see the results from one method informing the application of another. For instance, initial qualitative findings might guide the development of a quantitative survey.

Initiation involves identifying contradictions or paradoxes in findings that can lead to a reframing of theories or research questions.

The goal of expansion is to broaden the scope of research by using different methods for different components of the study, thus providing a more extensive exploration of the subject matter.

Ivankova & Greer (2015) highlight the application of these purposes within the Applied Linguistic field, emphasizing the combination of qualitative methods to understand the meaning behind constructs and quantitative methods to measure their prevalence and significance. This approach not only seeks to draw on the strengths of both qualitative and quantitative methods but also to frame the research within synergistic philosophical and theoretical positions. It encourages inclusivity and interdisciplinary collaboration, aiming to provide comprehensive answers across different disciplines and cultural contexts.

In general, by embracing the mixed-methods approach, researchers can navigate the complexities of their inquiries with a toolkit that is both diverse and adaptable, ensuring that their investigations are robust, thorough, and reflective of the multifaceted nature of the phenomena they study.

The Core Characteristics of the Mixed-Methods Approach

The mixed-methods approach in research methodology is characterized by its flexibility and adaptability to different research scenarios. Ivankova & Greer (2015) highlight several key characteristics that define this approach, including *stand*, *timing*, *weighting*, and *mixing*.

The *stand* characteristic refers to the foundational stance that each component within the mixed-methods approach maintains. It implies that both quantitative and qualitative components adhere to their respective methodological processes. This ensures that each retains its distinct methodological integrity and contributes its strengths to the research. For instance, the quantitative stand might involve statistical analysis, while the qualitative stand could include thematic analysis.

The *timing* characteristic addresses the sequence and interplay between qualitative and quantitative data collection. There are two primary approaches, concurrent and sequential. The concurrent approach involves collecting both qualitative and quantitative data simultaneously. This is beneficial when the researcher aims to directly compare and contrast different types of data to draw conclusions in real time. The sequential approach involves collecting one type of data before the other. This can be particularly useful when the initial data collection informs the subsequent method. For example, initial qualitative interviews may reveal themes that can then be quantitatively tested through surveys.

The *weighting* characteristic pertains to the emphasis placed on each method within the study. This can vary based on the research question and objectives and tend to be of three different kinds: equal weighting, quantitative dominant, and qualitative dominant

Equal weighting means that both qualitative and quantitative methods are given equal importance, reflecting a balanced approach to understanding the research problem.

Quantitative dominant refers to a greater emphasis placed on quantitative methods, with qualitative data providing supporting context. Qualitative dominant refers to qualitative data prioritized, offering depth and context to the research while quantitative data supplements and supports these findings.

The *mixing* characteristic describes how qualitative and quantitative data are integrated and encompasses three subtypes, combining, connecting, and merging. Combining involves integrating both sets of data during the interpretation phase. For example, qualitative insights might be used to explain patterns observed in the quantitative data.

Connecting refers to the process where the collection of one type of data is informed by the results of the other. For instance, the themes identified in qualitative analysis could guide the creation of quantitative measures. In the merging type, qualitative and quantitative data are brought together during the analysis stage, allowing for a comprehensive synthesis of findings. This could involve using qualitative data to provide narrative explanations for quantitative trends.

By elaborating on these characteristics, we can appreciate the nuanced and strategic application of the mixed-methods approach in research, which allows for a more thorough and insightful exploration of complex research questions. The following are some recent empirical studies or reviews from Applied Linguistics that illustrate the main characteristics of the mixed methods approach.

A study conducted by Riazi & Farsani (2023) reviews 304 mixed-methods research papers from 20 top-tier applied linguistics journals. The authors use a six-pronged quality and transparency framework to analyze the studies, focusing on how researchers frame their studies, explain the purpose and design, describe method features, and integrate quantitative and qualitative data. This comprehensive review demonstrates the expansion or combining characteristic of the mixed-methods approach by showing how different methods are used for varied components of research in applied linguistics.

Another study done by Fasani et al. (2022) examines the proficiency of applied linguists in mixed methods research using a PLS-path modelling approach. The research targets 175 applied linguists who publish in top-tier journals and create a mixed methods proficiency questionnaire. The study's findings reveal that applied linguists are knowledgeable about the foundations of mixed methods research but needed to improve their skills in integration, transparency, and quality. This study illustrates the development or connecting characteristic, as it uses the results from one method (quantitative questionnaire) to inform another (qualitative analysis of proficiency).

Another study by Alwaleedi et al. (2018) investigates the effects of collaborative writing activities in Arabic as a second language classrooms. Using a mixed-methods design, the researchers combine quantitative data from language proficiency tests with qualitative data from student interviews. The study finds that collaborative writing significantly improves language proficiency and also provides insights into the students' experiences and attitudes towards collaborative learning activities.

A recent study carried out by Liang (2021) examines the integration of technology in language teaching and its impact on student engagement and learning outcomes. Employing a mixed-methods approach, the study combines quantitative data from pre- and post-tests with qualitative observations and teacher interviews. The results shows that technology-enhanced instruction leads to increased student engagement and improved language skills, with the qualitative data offering rich descriptions of the instructional practices and student interactions.

CHOICE OF A RESEARCH APPROACH

The intricate process of selecting a research approach is a testament to the multifaceted nature of scholarly inquiry. It is a decision that is not made lightly, as it carries significant implications for the direction and

Qualitative and Quantitative Approaches

efficacy of the research. The choice between qualitative, quantitative, or mixed methods is influenced by a confluence of factors, each bearing its own weight in the decision-making process.

Dornyei (2007), through his advocacy for a mixed-methods approach, illuminates the personal dimension of this choice. His preference stems not only from his rich experience with both qualitative and quantitative landscapes but also from his individual cognitive styles. This personal cognitive framework shapes his perception of research and guides his methodological preferences. It is a clear indication that the selection of a research approach is a reflection of the researcher's inner thought processes and intellectual inclinations.

Creswell & Creswell (2023) further dissect the complexity of this decision by proposing three essential criteria that should guide the selection of a research approach: (i) nature of research problems and questions, (ii) researcher's personal experiences, and (iii) audience.

The first criterion underscores the importance of aligning the research approach with the specific demands of the research question. Certain questions are inherently qualitative or quantitative in nature, or they may require a combination of both to be answered comprehensively. For instance, a study aimed at understanding the cultural practices of a group of local ethnic students would benefit from a qualitative approach, where the richness of descriptive data can provide profound insights. Conversely, a study seeking to determine the prevalence of an edtech tool in a population would necessitate a quantitative approach, where statistical analysis can offer clarity and precision.

The second criterion highlights the subjective element of the selection process. A researcher's educational background, training, and accumulated experiences shape their methodological leanings. For example, a researcher with a strong background in statistical analysis may gravitate towards quantitative methods, while another with expertise in ethnography may prefer qualitative techniques.

The final criterion emphasizes the need to consider the audience's familiarity and comfort with different research methodologies. The choice of approach should facilitate effective communication and engagement with the audience. If the audience is more receptive to quantitative data, a researcher might prioritize statistical evidence, whereas an audience accustomed to narrative accounts might be better served by qualitative findings.

In essence, the choice of a research approach is a deliberate and strategic decision that is influenced by the specific research problem, the researcher's personal cognitive styles and experiences, and the intended audience's background with different research methods. These factors collectively guide researchers in selecting the most appropriate and effective approach for their study, ensuring that the research conducted is not only rigorous but also resonant with the intended audience. The decision is a harmonious blend of objective assessment and subjective preference, culminating in a methodology that is best suited to answer the research question at hand.

CONCLUSION

This chapter covers the major core features of the qualitative and quantitative paradigms ranging from philosophical assumptions to practical applications in the Applied Linguistics and Language Education fields. All these features, whether philosophical or practical, highlight the two main directions emerging from the historical evolution of these paradigms: disparity and complementarity. While the feature of disparity addresses the varying degrees of qualitative-quantitative distinction, that of complementarity deals with the extent to which various elements of the two paradigms can be integrated. Based on the

background of the dynamic interplay between these two characteristics, the chapter also provides insights into the three distinctive research approaches: qualitative, quantitative, and mixed. By examining their philosophical underpinnings, describing their core characteristics, and exemplifying their practical manifestations in the professional fields, the chapter reveals the nature of these three research approaches and finally portrays some significant factors affecting the selection of a research approach.

REFERENCES

- Alwaleedi, M., Gillies, R., & Hamid, M. O. (2018). Collaborative writing in Arabic as second language (ASL) Classrooms: A mixed-method study. *Language, Culture and Curriculum*, 32(2), 157–172. doi:10.1080/07908318.2018.1521422
- Ary, D., Jacobs, L. C., Sorensen, C., & Walker, D. A. (2010). *Introduction to Research in education* (9th ed.). WADSWORTH Cengage Learning.
- Burroughs, N., Gardner, J., Lee, Y., Guo, S., Touitou, I., Jansen, K., & Schmidt, W. (2019). *Teaching for Excellence and Equity: Analyzing Teacher Characteristics, Behaviors and Student Outcomes with TIMSS*. Springer., doi:10.1007/978-3-030-16151-4
- Creswell, J. W., & Clark, V. L. P. (2011). *Designing and Conducting Mixed Methods Research* (2nd ed.). Sage.
- Creswell, J. W., & Creswell, J. D. (2023). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (6th ed.). Sage.
- Dornyei, Z. (2007). *Research Methods in Applied Linguistics: Qualitative, Quantitative and Mixed Methodologies*. OUP.
- Ercikan, K., & Roth, W. M. (2006). What Good Is Polarizing Research into Qualitative and Quantitative? *Educational Researcher*, 35(5), 14–23. <https://www.jstor.org/stable/3699783>. doi:10.3102/0013189X035005014
- Fasani, M. A., Babaii, E., Beikmohammadi, M., & Farsani, M. B. (2022). Mixed-methods research proficiency for applied linguists: A PLS-path modelling approach. *Quality & Quantity*, 56(5), 3337–3362. doi:10.1007/s11135-021-01268-7
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a Conceptual Framework for Mixed-Method Evaluation Designs. *Educational Evaluation and Policy Analysis*, 11(3), 255–274. doi:10.3102/01623737011003255
- Hartas, D. (2010). *Educational Research and Inquiry: Qualitative and Quantitative Approaches*. Bloomsbury. doi:10.5040/9781474243834
- Ivankova, N. L., & Greer, J. L. (2015). Mixed methods Research and Analysis. In B. Paltridge & A. Phakiti (Eds.), *Research Methods in Applied Linguistics: A Practical Resource* (pp. 60–74). Bloomsbury.
- Johnson, B., & Christensen, L. (2017). *Educational Research: Qualitative, Quantitative and Mixed Approaches* (6th ed.). Sage.

Qualitative and Quantitative Approaches

- Kanno, Y. (2003). *Negotiating Bilingual and Bicultural Identities: Japanese Returnees Betwixt Two Worlds*. Lawrence Erlbaum Associates. doi:10.4324/9781410607560
- Liang, W. (2021). University teachers' technology integration in teaching English as a foreign language: Evidence from a case study in mainland China. *SN Social Sciences*, 1(219), 1–29. doi:10.1007/s43545-021-00223-5 PMID:34693336
- Norton, B. (2000). *Identity and Language Learning: Gender, Ethnicity and Educational Change*. Longman.
- Paltridge & A. Phakiti (Eds.). (2015). *Research Methods in Applied Linguistics: A Practical Resource*. Bloomsbury.
- Pavlenko, A. (2001). Bilingualism and Emotions. *Multilingua*, 20(1), 45–78. doi:10.1515/mult.2002.004
- Phakiti, A. (2015). Quantitative research and analysis. In B. Paltridge & A. Phakiti (Eds.), *Research Methods in Applied Linguistics: A Practical Resource* (pp. 34–48). Bloomsbury.
- Plonsky, L. (2015). *Advancing quantitative methods in second language research*. Routledge. doi:10.4324/9781315870908
- Riazi, A. M., & Farsani, M. A. (2023). Mixed-methods research in applied linguistics: Charting the progress through the second decade of the twenty-first century. *Language Teaching*, 1–40. doi:10.1017/S0261444823000332
- White, R. E., & Cooper, K. (2022). *Qualitative Research in the Post-Modern Era: Critical Approaches and Selected Methodologies*. Springer. doi:10.1007/978-3-030-85124-8

ADDITIONAL READINGS

- Christensen, L. B., Johnson, R. B., & Turner, L. A. (2015). *Research methods, design, and analysis* (12th ed.). Pearson.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publishing.
- Khoa, B. T., Hung, B. P., & Hejsalem-Brahmi, M. (2023). Qualitative research in social sciences: Data collection, data analysis and report writing. *International Journal of Public Sector Performance Management*, 12(1-2), 187–209. doi:10.1504/IJPSPM.2023.132247
- Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd revised edition). New Age International Publisher.
- Walliman, N. (2011). *Research methods: The basics*. Routledge.

KEY TERMS AND DEFINITIONS

Research Proposal: A plan of actions which people intend to follow.

Abstract: A summary of the key points, especially in a research paper or proposal.

Literature Review: A review of related literature to frame a study
Research problem: an issue which a study intends to investigate or explore.

Ontology: the philosophical study of the nature of existence, reality, and the framework of being which examines the categories of being and their relationships, aiming to determine what entities and types of entities exist. Ontology addresses questions such as whether only physical objects are real, or if abstract concepts like numbers and morality have existence too.

Epistemology: the philosophical study of knowledge, its nature, scope, and limits which delves into questions about what constitutes knowledge, how it is acquired, and how we can differentiate between true knowledge and false beliefs.

Axiology: the philosophical study of value, encompassing ethics, aesthetics, and the overall theory of value which investigates what things are valuable, why they are valuable, and how we can understand and appreciate these values.

Chapter 4

Qualitative Data Collection

Tu Thi Cam Dang

University of Foreign Languages and International Studies, Hue University, Vietnam

Huy Van Nguyen

 <https://orcid.org/0000-0001-6826-6188>

University of Foreign Languages and International Studies, Hue University, Vietnam

Phuong Thi Thao Tran

 <https://orcid.org/0000-0001-5769-7134>

University of Foreign Languages and International Studies, Hue University, Vietnam

ABSTRACT

The process of collecting qualitative data could be time-consuming and complicated, depending on the competence of the researcher. Although the use of qualitative data is much favored to shed light on the contingencies and intricacies of complex social research problems, it is often frowned upon due to the inconsistent nature of data and the interference of researchers' voices and values. It is thus important for researchers to understand the nature of this kind of data and how they can be collected effectively. In this chapter, we focus on the process of collecting qualitative data. The chapter begins with philosophical assumptions in collecting qualitative data, then will turn to different types of qualitative data and qualitative research approaches. Next, a list of techniques to collect qualitative data will be presented. Finally, the ethical issues of the qualitative data collection process will be covered.

INTRODUCTION

This chapter aims to provide an overview of the collection of qualitative data. Different from quantitative data, qualitative ones cannot be counted, measured, or presented using numbers. Qualitative data assist researchers in finding relevant answers to questions of how and why things happen in such ways that intrigue research attention. The process of collecting qualitative data could be time-consuming and complicated, depending on the competence of researchers. Although the use of qualitative data is much

DOI: 10.4018/979-8-3693-2603-9.ch004

Table 1. (Adopting from Crotty, 1998)

<i>Types of epistemologies</i>	<i>Objectivism</i>	<i>Constructionism</i>	<i>Subjectivism (and its variants)</i>
Description	Meaningful reality exists as such apart from the operation of any consciousness. It can be discovered.	Meaning exists in and out of our engagement with the realities in our world. It cannot be discovered but instead constructed.	Meaning is imported from somewhere else, not from the interplay between subject and object. (e.g., a dream, religious beliefs, etc.)

avored to shed light on the contingencies and intricacies of complex social research problems, it is often frowned upon due to the inconsistent nature of data and the interference of researchers' voices and values.

This chapter elaborates essential issues related to qualitative data collection. It begins with key philosophical assumptions in collecting qualitative data, then proceed with different types of qualitative data and qualitative research approaches. Next, a list of techniques to collect qualitative data are discussed. Finally, the ethical issues of the qualitative data collection process is covered.

PHILOSOPHICAL ASSUMPTION IN COLLECTING QUALITATIVE DATA

According to Crotty (1998), when developing their research proposals, researchers in social sciences and applied linguistics are strongly recommended to reflect on the concept of "epistemology" to avoid being stranded in what he calls "blatant contradiction in what we claim" in our research. Epistemology is understood as "the theory of knowledge" that guides researchers to answer the question of "how we know what we know". Epistemology is generally categorized into three types:

TESOL and applied linguistics researchers who seek to collect qualitative data are usually subject to the belief that "there is no clear window into the inner life of an individual" (Denzin & Lincoln, 2011, p. 12). They are often found to argue that there cannot be objective, axiomatic observations of human behavior. To put it as Denzin and Lincoln do (2011), there can only exist observations that are "socially situated in the worlds of – and between – the observer and the observed" (p.12). In other words, understandings gained into this inner realm of human behavior are always filtered through the philosophical lenses that researchers adopt.

Gagnon (2010) thus cites Hagedorn (1983) to argue that a researcher who is considering collecting qualitative data and using qualitative research methods should subscribe to the constructivist approach, which holds that society is not a given, as it is for the positivists, but rather constructed through the relationships individuals forge with each other" (p.13). They, therefore, assume that there are "multiple realities" (Guba, 1990, p. 27) and that these realities are "constructed through our experiences and interactions with other members of society" (Denzin & Lincoln, 2011, p.103).

On the whole, Crotty (1998) stresses the importance of being consistent with our epistemological assumptions. Researchers need to be "consistently positivist or consistently constructionist (or subjectivist)". Qualitative (as well as quantitative), data can be used for both perspectives on epistemology, but they serve different roles in researchers' truth-claiming. If researchers are subscribed to objectivism, they need to "distinguish scientifically established objective meanings from subjective meanings that people hold in everyday fashion and that at best 'reflect' or 'mirror' or 'approximate' objective meanings." On

Qualitative Data Collection

the other hand, if researchers are consistent with their constructivist perspective on epistemology, there will be no objective, absolute, generalizable understandings or knowledge.

QUALITATIVE DATA AND QUALITATIVE RESEARCH APPROACHES

Qualitative research approaches

Qualitative research is considered as an important method in investigating the multifaceted nature of human experiences, perceptions, and behaviors. While quantitative research relies mostly on measurable data and statistical analysis, qualitative research focuses on other aspects such as narratives, images, or words.

Qualitative research has different approaches with regards to how to collect relevant data to showcase the crucial information of the research problem. Each approach facilitates an exploration of subjective and contextual elements of human experiences which offers distinctive insights into the understanding of diverse phenomena that quantitative methods may not capture (Creswell, 2013). For example, researchers adopt *narrative inquiry* approach to focus on the stories in which individuals talk about their experiences, uncovering the underlying meanings and patterns (Creswell, 2013). In educational research, to understand the complex dynamics within the education environment, this approach enables the personal narratives from administrators, instructors, and students. With *case study* approach, researchers can have a detailed and in-depth exploration of various aspects within a specific context (Yin, 2014). *Ethnography* approach, on the other hand, immerses researchers in the natural, authentic environment of the subjects under study. As Hammersley and Atkinson (2007) emphasize, ethnographic methods involve observation and participation in daily lives with the aim to grasp cultural nuances and social dynamics. Meanwhile, *action research* approach is a collaborative approach involving both researchers and participants in a cyclical process of planning, acting, observing, and reflecting (Stringer, 2014). This method is particularly useful in educational settings, where teachers and researchers work together to investigate and address practical issues. Action research enables the exploration of real-world problems and the development of solutions within the context of the study. In some research, researchers can adopt *mixed methods* approach, such as combining qualitative and quantitative approach, to provide a more comprehensive understanding about the problem (Creswell & Creswell, 2017). This approach incorporates both narrative inquiry and case study methods, for examples, to enrich the depth of exploration and enhance the validity of findings.

The approaches mentioned above are some typical examples of qualitative research approach, and the list of these approaches can be expanded to include other qualitative methods. Nevertheless, the common salient feature among these approaches is that qualitative research can be conducted flexibly and in small samples. Therefore, they cannot be generalized to broader populations.

The nature of qualitative data

Data is the information collected by researchers with the aim to answer their research questions. Depending on the research questions, researchers can decide to collect quantitative data or qualitative data, or even both kinds of data. To put it simply, quantitative data is expressed and illustrated in numbers and graphs, using statistical methods to analyze. Meanwhile, qualitative data is expressed in words and is analyzed through categories and interpretations. In qualitative research, as stated by Dörnyei (2007),

there is no standard or clear definition on what can be considered “data” (Dörnyei, 2007); instead, “the researcher in a qualitative project often starts out by treating everything around the topic as potential data” (Richard, 2005 cited in Dörnyei, 2007, p.125). In fact, qualitative data collection can be considered as an open-ended process that includes all the contextual information related to the research topic and the research site.

Related to the characteristics of qualitative data, Dörnyei (2007) emphasizes that “ [...] although qualitative data can come from many different sources, it is usually transformed into textual form and may result in hundreds or even thousands of pages of transcripts of various recordings, field notes, and documents with different nature and length (Dörnyei, 2007, pp.124 - 125). Typically, qualitative data tends to be long, unfocused, and even messy (Dörnyei, 2007). This does not mean that qualitative data is not reliable enough or cannot produce valuable results; however, it shows that collecting and processing qualitative data requires a lot of work from researchers. They need to have a clear and detailed plan for collecting, storing, and processing the data. However, it should be noted that compared to quantitative research, qualitative research is less systematic, standardized, and generalized in its own data collection approach. The collected data often reflect the complex real-life situations. Hence, qualitative data collection is an “open-ended process” (Silverman, 2016, p.50). In some cases, the information that is collected from a different purpose or observation (originally not part of our research) might turn out to be important data (Silverman, 2016). Therefore, it is important for researchers, especially novice one, to have a plan for data reduction. As Richard (2005) highlights, “novice researchers can very easily frame the scale of a project in terms of how widely they might need to spread their net, rather than how wider, realistically, the spread can be” (p.20).

TYPES OF QUALITATIVE DATA

Qualitative data can be broadly categorized as follows:

- a. *Observational data*: Observational data involves detailed observations of participants’ behaviour, interactions, and activities within their natural environment (Spradley, 1979).
- b. *Interview data*: Researchers use interviews to gather participants’ perspectives, experiences, and insights (Rubin & Rubin, 2005).
- c. *Documentary data*: Qualitative researchers also often analyze documents, texts, artifacts, and other materials relevant to research context to gain deeper insights into cultural practices and beliefs (Emerson et al., 1995).
- d. *Visual data*: To some researchers, visual data such as photographs, videos, and drawings can provide additional context and richness (Pink, 2007).
- e. *Audio data*: Audio recordings of conversations, interviews, and ambient sounds within the research setting offer valuable insights into participants’ language use and social interactions (Emerson et al., 1995). For instance, Heath (1983), in his study of workplace communication, recorded and analyzed audio data to explore language variation and communication patterns among workers.
- f. *Field notes*: Serving as a written or typed reflections and observations, field notes can capture researchers’ insights during fieldwork (Emerson et al., 1995). Liebow (1967), in his study of rural community in Appalachia, documented his observations, conversations, and reflection in field notes, providing a detailed account of community life and social dynamics.

Qualitative Data Collection

- g. *Participants' artifacts:* Researchers may ask participants to create artifacts such as journal, diaries, or drawings that offer unique insights into their experiences and perspectives (Pink, 2007).
- h. *Digital data:* With the development of digital technologies, researchers may collect data from online sources such as social media platforms (e.g., posts on Facebook or Twitter) and digital archives (Hine, 2000).

By integrating multiple types of data, qualitative research studies can help researchers to develop a deep understanding of cultural dynamics, social structures, and real-life experiences within the communities of the research. This allows researchers to triangulate their findings, validate their interpretations, and generate rich and deep insights into the complexities of human behaviours and cultural practices.

QUALITATIVE DATA COLLECTION TOOLS

The following section discusses five key instruments to collect qualitative data including fieldwork and fieldnotes, interviewing, observation, open-ended questionnaires, and documentation. It should be noted that these five instruments represent the most frequently-used tools, not the total number of collection tools that researchers can use to collect data qualitatively for their research projects. Their definition, advantages, challenges as well as recommendations for optimal use are subsequently elaborated to provide better understanding of the nature of these qualitative data collection tools.

Fieldwork and fieldnotes

Fieldwork is a widespread data collection technique in qualitative research. Fieldwork can be considered as an intellectual enterprise and this process requires deep reflection as well as practical preparation and skills (Blommeart & Jie, 2020). Erickson (1986) states that fieldwork helps find out what is happening in a particular setting and the local meanings of actions from the actor's viewpoint.

The act of writing field notes is not a simple process. First, it is not easy for a researcher to jot down all the 'significant' events at the time of observing them. During the observation activities, a researcher may not know what event is important, so he/she can miss some details. Hence, it is suggested that a researcher should have some research questions or observational foci in mind when he/she is inside the target research community. Different observers can note down the same event in different ways because what each observer sees as important is likely to be different. Thus, field notes much depend on the choices, positioning, personal sensitivities, and interactional concerns of the observers (Emerson et al., 1995). Researchers can decide to record events in chronological order or spatial order or character-oriented order, etc. The way a researcher records events may depend on what is most convenient to him at the time of writing field notes or on the way that the event is organized. In addition to a descriptive account of events, researchers should also make some reflections or memos on what relates to their research objectives, or what is meaningful to their positionality. For this reason, it is a great idea that a researcher should spend some time after each observation session adding more details to their original notes based on his memory and reflecting on what they should focus on further in the subsequent observations.

Interviewing

Qualitative interviews are used to elicit information from individuals, pairs, or groups of participants (Roulston, 2022). Interviews can be conducted online face-to-face or on the phone. In terms of question types, interviews can be divided into two types: with open questions and with closed questions. In open-ended question interviews, the interviewer asks questions that interviewees can express their opinions in their own words. In closed question interviews, the answer can only be “yes” or “no” and some statements. Interviews can also be classified in terms of structure, including structured interviews and semi-structured or unstructured interviews. In qualitative research, semi-structured and unstructured interviews are often employed as they both allow for flexibility and help develop the rapport between the interviewer and interviewees (De Fina, 2019). In semi-structured interviews, researchers prepare some main questions in mind but can modify questions as to the flow of the interview and the responses of the interviewees. Unstructured interviews are similar to conversations between interviewer and interviewees in which the interviewer has a specific topic yet has not prepared interview questions beforehand. In addition, as suggested by Roulston (2014), interviews can be formal or informal. While formal ones are conducted with well-prepared protocols, informal interviews are conversations that researchers initiate in response to what they observe in their field site. Informal interviews may not be audio-recorded due to their spontaneity, so researchers often record significant details at a later time. Meanwhile, formal interviews are often scheduled, structured, and recorded for later-on transcription.

According to Heyl (2001), interviewing is a data collection technique “in which researchers have established respectful, ongoing relationships with their interviewees, including enough rapport for there to be a genuine exchange of views and enough time and openness in the interviews for the interviewees to explore purposefully with researchers the meanings they place on events in their worlds” (p. 369). Multiple interviews can be carried out over time, and the analysis will be done simultaneously with data generation. Thus, findings and questions from earlier interviews will be used to structure different questions in later interviews. As suggested by Spradley (1979), researchers usually ask open-ended questions to explore information about space, time, events, people, and activities in the early phases of their fieldwork. After preliminary analysis, some structural and contrast questions can be formed for subsequent interviews to verify or disconfirm themes generated from initial data analysis. This recurring process helps researchers refine the interpretation and analysis of data obtained from different sources in ethnographic research.

Participant observation and classroom observation

By definition, participant observation is the method by which a researcher joins the daily activities, interactions, and events of a group to explore the explicit and tacit aspects of their daily routines and culture (Dewalt & Dewalt, 2010). Schensul et al. (1999) consider participant observation as a foundation method for ethnographic studies. Through participant observation, ethnographers can collect data in naturalistic settings by observing and taking part in the activities of the investigated people. Schensul et al. (1999) emphasizes that participant observation gives researchers an intuitive and intellectual grasp of how things are happening in the studied community and reveals some socioeconomic hierarchies and cultural patterns that are not explicitly shown in public. Participant observation also gives researchers the chance to discuss cultural experiences during the data collection.

Qualitative Data Collection

In the arena of language teaching and language learning, participant observation often occurs inside school and language classrooms. Classroom observation goes together with writing field notes. In doing classroom observation, researchers attend classes and record specific information about what happens within a classroom. According to Ravitch & Karl (2020), observation is an interpretive and naturalistic approach to help researchers understand people, their activities in their context as well as their social identity and their positionality. Moreover, observation enables researchers to discover and explain complicated social structures and social contexts that shape participants' behavior and experiences. Observation and field notes constitute data for qualitative research. Through reviewing field notes, researchers can have the chance to do reflective engagement with their observational process.

However, there are some challenges of observation. The first challenge is reactivity, which is the impact of the presence of researchers on the behavior of participants in the observed context (Ravitch & Karl, 2020). The presence of researchers may make the actions of participants less natural and less authentic. To overcome this challenge, researchers should be deeply involved in the context as a regular member for some time before data collection is done so that participants feel familiar with the presence of researchers in their classroom. The second challenge is that observation should be done over a long time, in a consistent way so that the activities and interactions observed are contextualized and meaningful (Ravitch & Karl, 2020). Thus, researchers should observe classes in continuous sequence for a duration of time, so that their understanding of students and classroom activities can be complete.

Open-ended questionnaires

Open-ended questionnaires stand as a cornerstone in qualitative research methodologies, providing researchers in applied linguistics and education with a versatile tool for exploring the intricate nuances of human experiences, perceptions, and behaviors within specific contexts. Rooted in the qualitative paradigm, open-ended questionnaires allow participants to express themselves freely, yielding rich, narrative data that illuminate the complexities of language learning, classroom dynamics, and educational practices.

Open-ended questionnaires have certain advantages. First, they enable researchers to gain a nuanced understanding of participants' experiences, motivations, and attitudes in the context of language learning and education (Creswell & Poth, 2017). Second, participants may feel more engaged and empowered when responding to open-ended questions, as they have the opportunity to express themselves fully and provide insights that are meaningful to them, fostering a sense of ownership in the research process (Bryman, 2016). Third, open-ended responses offer flexibility in analysis, allowing researchers to explore emerging themes and patterns organically without preconceived categories, which is particularly beneficial in applied linguistics and education research where phenomena may be multifaceted and complex (Merriam, 2009).

However, using open-ended questionnaires can be potentially challenging for researchers. First, analyzing open-ended responses can be time-consuming and labor-intensive, requiring careful coding and thematic analysis to identify patterns and themes amidst the richness of qualitative data (Miles et al., 2014). Second, the interpretation of open-ended responses may be subjective, as researchers must make decisions about coding and analysis based on their interpretations, highlighting the importance of transparency and reflexivity in qualitative research (Silverman, 2016). Third, participants may provide responses influenced by social desirability bias or other factors, leading to potential inaccuracies in the data, necessitating researchers to employ strategies to mitigate bias and ensure data validity (Guba & Lincoln, 1994).

In short, open-ended questionnaires serve as indispensable tools for qualitative inquiry in applied linguistics and education research, offering researchers a means to explore complex phenomena and gain deep insights into the lived experiences of participants. Despite challenges in collection, analysis and interpretation, their flexibility and depth make them invaluable for researchers seeking to understand the intricacies of language learning, educational practices, and socio-cultural dynamics in diverse contexts. Researchers who want to employ open-ended questionnaires should pay attention to the following pieces of advice:

- First, researchers should design clear and concise questions.
- Second, it is important for researchers to focus on key themes
- Third, researchers should provide research context and give instructions.
- Fourth, researchers should strike a balance between structured and open-ended questions to both guide participants and allow room for them to express themselves freely.
- Fifth, it is important for researchers to pilot test the questionnaire.
- Sixth, researchers should take cultural sensitivities into account when designing open-ended questions, especially in cross-cultural research contexts.
- Seventh, researchers should be prepared to iterate and adapt the questionnaire based on ongoing feedback and insights gained from data collection.
- Finally, researchers should be transparent and ethical.

For more detailed guidelines, researchers can follow the ethical guidelines outlined by professional organizations such as the American Educational Research Association and the British Educational Research Association.

Documentation

Documentation is another important data collection tool for qualitative research. They can offer researchers a lot of important information for their in-depth investigation and analysis. Gross (2018) states that documentation is a form of qualitative data collection, in which researchers examine documents and textual materials which are produced by and about organizations to understand more about their research problems. The data includes historical records, official documents, correspondences, reports, memos, policy statements, and other written documents that offer insights into various aspects of human behaviors, social interactions, organizational dynamics or cultural phenomena.

Documents and archival data have various formats, including printed materials, electronic documents, and even those transmitted via the Internet (Bowen, 2009). These diverse resources include a wide range of textual materials such as newspaper articles, government publications, organizational records, personal diaries, social media posts, emails, and website contents. Each type of document offers unique perspectives which are valuable to a deep understanding of the research topic.

Documentation as a data collection tool for qualitative research involves a systematic and careful approach to data collection, coding, and interpretation. Researchers can begin by identifying relevant documents that align with the research aims and research questions. Then they carefully review and analyze the content of these documents to extract important and relevant information, identify the patterns, and generate their insights into the phenomena under investigation. This process may involve categorizing

Qualitative Data Collection

documents, coding textual data, and applying thematic analysis techniques to identify recurring themes and patterns in collected documents (Bowen, 2009; Silverman, 2016).

In addition, researchers must critically evaluate the credibility, authenticity and representativeness of the documents used in their analysis. They should consider factors such as the sources of the documents, the context in which it was produced, the author's views and biases, and any other potential limitations or biases in the documents themselves (Bowen, 2009; Silverman, 2016). Furthermore, researchers may triangulate documents and archival data with other sources of qualitative data such as interviews, observations, or field notes in order to enhance the validity and reliability of their findings (Bowen, 2009; Denzin & Lincoln, 2017).

There are several advantages of using documentation for qualitative research. First, they enable researchers to examine organizational processes, policies, and practices from and insiders' perspective, shedding lights on internal dynamics and decision-making processes within organizations (Bowen, 2009; Denzin & Lincoln, 2017). Second, they provide researchers access to historical records and archival materials that may not be accessible through other data collection methods. Therefore, researchers can explore long-term trends, historical events, and cultural changes. Finally, document and archival data offer a cost-effective and non-intrusive means of data collection because researchers can access pre-existing documents without the need for direct participant involvement.

However, it is crucial to acknowledge its limitations and potential disadvantages. One of the main problems is the inherent bias and subjectivity in the selection and interpretation of documents. Another problem researchers may encounter is the potential for data overload and information saturation. Furthermore, document and archival data analysis may lack the richness and depth of data obtained through other qualitative methods such as interviews or observations. Lastly, there are ethical considerations to be mindful of when using document and archival data in research. Researchers must ensure that they have obtained the permission and comply with ethical guidelines about using archival materials, particularly when dealing with sensitive or confidential information.

ETHICAL ISSUES IN COLLECTING DATA FOR QUALITATIVE RESEARCH

Ethics is a topic of great concern in qualitative research as qualitative research is believed to be highly subjective. In qualitative research, we should follow an ethical approach throughout the whole study (Atkins & Wallace, 2016). According to Birch & Miller (2012), the process of data collection and data analysis in qualitative research requires constant and different ethical negotiations. Not only does it involve the need for participant consent and anonymity of participant information, but ethical issues should also be taken into account in all aspects of a study, from the initial planning phase, through data collection, and data analysis to the final reporting phase. There are many things to discuss on the topic of ethics in qualitative research, depending on each context and institution. Above all, some key ethical issues in qualitative research are *informed consent*, *privacy*, *building rapport with participants*, *honesty*, and *reflexivity* (Atkins & Wallace, 2016).

Before data is collected, participants should sign *informed consent forms*. Informed consent forms often provide participants with information about the purpose and procedure of the study they are invited to join as well as their right to privacy or to withdraw. It is important to make consent as informed as possible as it shows respect for participants' autonomy and helps invited participants to make objective decisions about whether they wish to participate or not (Atkins & Wallace, 2016). In the case of minor

participants (e.g. adolescents), consent from parents is necessary. As argued by Graham et al. (2014), researchers have to follow the social and cultural norms and values when seeking the viewpoints of children to ensure the ethics of the study.

Privacy and protection from harm are other ethical issues in qualitative research. As for privacy, participants' personal information must be kept in confidence. Researchers should use non-gendered pseudonyms in the study report to protect participants' identities. With the collected data from interviews, videos, or field notes, researchers are encouraged to keep a code key. The code key will be kept on researchers' password-protected personal computer and will only be accessible to researchers. Interview recordings will be destroyed following transcription. In school settings, to ensure research ethics, it is necessary to clarify and guarantee to teachers that information related to their teaching will not be revealed to their supervisors and that students' information about their school work as well as their home life will be protected from teachers (Erickson, 1986). This helps ensure ethics and also helps participants feel comfortable and trustful towards researchers. As for harm, participants should be protected from distress due to participating in the study. For example, vulnerable students who participate in the study should not feel at risk or lose face when their personal information is revealed during the study. Teachers who participate in the study should not face any negative consequences due to their interpretation of their institutional policies.

Next, *building rapport with participants* is crucial for data collection in qualitative research. As explained by Glesne & Peshkin (1992), rapport leads to trust, and trust lays the foundation for participants to recount their fullest, and most accurate life stories. To collect rich data from a school/ community, the first thing to consider is how to access participants and build mutual trust with them so that they can share their experiences and personal thoughts deep inside their minds. In interviewing, Duncombe & Jessop (2012) advise interviewers to avoid improper expressions of disapproval, to never challenge interviewees, and to maintain a pleasant and encouraging interest. Trust, rapport, and collaborative relationships are crucially important in fieldwork (Erickson, 1986) because only through non-threatening and mutually rewarding relationships with participants can help researchers gain insights into the informants' viewpoints.

Honesty and integrity are also very important in qualitative research. Honesty and integrity mean researchers must not falsify the data (Atkins & Wallace, 2012). These are core values in doing research and related to moral issues. In qualitative research, researchers need to address their positionality in the study they conduct. This is because the background of researchers, and the knowledge and experience of researchers will somehow affect the way they view data and analyze data. Although qualitative research is highly subjective, it is believed that the context under investigation represents part of a social context and people can find a similar case somewhere outside in the world. Thus, the way researchers acknowledge their positionality in their study can make the research findings more reliable and valid.

To ensure transparency of qualitative data collection, *reflexivity* should not be overlooked. Reflexivity refers to "the link between the researcher's life experiences and all aspects of the research process, from the initial idea to textual choices." Researchers' background and position will influence what they choose to investigate, the angle of investigation, the methods used to conduct the study, and the framing of conclusions." (Malterud, 2001). As suggested by Birch & Miller (2012), researchers need to be ethically reflexive when the life experiences of a community are studied.

CONCLUSION

This chapter discusses crucial issues related to collecting qualitative data. Although it might be not difficult to distinguish qualitative data from quantitative one, it could be a challenge, even for experienced researchers, to collect qualitative data in a meaningful, systematic and ethical way. In most cases, qualitative research projects are set to explore and understand human feelings and thoughts. They are thus set to trespass on a land mine of personal confidings which might be not always easy to be verbally expressed and decoded. Apart from the key data collection tools presented in this chapter, researchers need to exercise constant self-reflection on the purpose of their studies, the nature of their relationship with the research communities, and the ethical considerations associated with participants' personal confidings. The procedures to collect qualitative data thus could vary from contexts to contexts, from cultures to cultures, from individuals to individuals. The storage of these data thus should be done in a secure and confidential manner. The analysis of this data thus should be done with contingency and integrity to ensure and uphold research ethics in social and humanities science.

REFERENCES

- Atkins, L., & Wallace, S. (2012). *Qualitative education research*. SAGE. doi:10.4135/9781473957602
- Birch, M., & Miller, T. (2012). Encouraging participation: ethics and responsibilities. In Miller T., Birch, M., Mauthner, M., & Jessop, J. (2nd eds.). *Ethics in qualitative research*. Sage. doi:10.4135/9781473913912.n7
- Blommeart, J., & Jie, F. (2020). Fieldwork as an intellectual enterprise: Reflections on preparation and skills. *Qualitative Research Journal*, 20(3), 297–312.
- Bowen, G. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. doi:10.3316/QRJ0902027
- Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Creswell, J. W., & Poth, C. N. (2017). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. SAGE Publications.
- De Fina, A. (2019). The ethnographic interview. In K. Tusting (Ed.), *The Routledge Handbook of Linguistic Ethnography* (pp. 154–167). Routledge. doi:10.4324/9781315675824-12
- Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE handbook of qualitative research* (4th ed.). SAGE Publications.

- Denzin, N. K., & Lincoln, Y. S. (2017). *The Sage handbook of qualitative research* (5th ed.). Sage Publications.
- Dewalt, K. M., & Dewalt, B. R. (2010). *Participant observation: a guide for fieldworkers*. AltaMira Press.
- Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies*. Oxford University Press.
- Duncombe, J., & Jessop, J. (2012). “Doing rapport” and the ethics of “faking friendship”. In Miller, T., Birch, M., Mauthner, M., & Jessop, J. (2nd eds.). *Ethics in qualitative research*. Sage.
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (1995). *Writing ethnographic fieldnotes*. University of Chicago Press. doi:10.7208/chicago/9780226206851.001.0001
- Erickson, F. (1986). Qualitative methods in research on teaching. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 119–161). Macmillan.
- Gagnon, M. (2010). Qualitative research methods in second language acquisition. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (Vol. 2, pp. 11–29). Routledge.
- Glesne, C., & Peshkin, A. (1992). *Becoming qualitative researchers: an introduction*. Longman.
- Graham, A. P., Phelps, R. A., Ha, T. T. N., & Geeves, R. (2014). Researching with children in Vietnam: Cultural, methodological and ethical considerations. *Qualitative Research, 14*(1), 37–60. doi:10.1177/1468794112455038
- Gross, J. (2018). Document analysis. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (5th ed., pp. 473–490). Sage Publications.
- Guba, E. G. (1990). *The paradigm dialog*. SAGE Publications.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105–117). SAGE Publications.
- Hagedorn, L. S. (1983). The constructivist approach to counseling: Theoretical bases and practical applications. *Person-Centered Review, 2*(3), 257–277.
- Hammersley, M., & Atkinson, P. (2007). *Ethnography: Principles in Practice*. Routledge.
- Heath, C. (1983). *Ways with words: Language, life, and work in communities and classrooms*. Cambridge University Press. doi:10.1017/CBO9780511841057
- Heyl, B. S. (2001). Interviewing: A data collection technique. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 365–375). SAGE Publications.
- Hine, C. (2000). *Virtual ethnography*. SAGE Publications. doi:10.4135/9780857020277
- Liebow, E. (1967). *Tally's corner: A study of Negro streetcorner men*. Little, Brown and Company.
- Malterud, K. (2001). Qualitative research: Standards, challenges, and guidelines. *Lancet, 358*(9280), 483–488. doi:10.1016/S0140-6736(01)05627-6 PMID:11513933
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. Jossey-Bass.

Qualitative Data Collection

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE Publications.

Pink, S. (2007). *Doing visual ethnography: Images, media, and representation in research*. SAGE Publications. doi:10.4135/9780857025029

Ravitch, S. M., & Carl, N. M. (2020). *Qualitative research: Bridging the conceptual, theoretical, and methodological*. SAGE Publications.

Richard, B. (2005). Qualitative inquiry: Tensions and transformations. In Z. Dörnyei (Ed.), *Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies* (pp. 121–137). Oxford University Press.

Roulston, K. (2014). Conducting and analyzing individual interviews. In C. M. Conway (Ed.), *The Oxford handbook of qualitative research in American music education* (pp. 250–270). Oxford: Oxford University Press. doi:10.1093/oxfordhb/9780199844272.013.014

Roulston, K. (2022). *Interviewing: A guide to theory and practice*. SAGE.

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing: The art of hearing data*. SAGE Publications. doi:10.4135/9781452226651

Schensul, S. L., Schensul, J. J., & LeCompte, M. D. (1999). *Essential ethnographic methods: Observations, interviews, and questionnaires*. Rowman & Littlefield Publishers Inc.

Silverman, D. (2016). *Qualitative research* (4th ed.). SAGE Publications.

Spradley, J. P. (1979). *The ethnographic interview*. Holt, Rinehart and Winston.

Stringer, E. T. (2014). *Action research*. Sage Publications.

Yin, R. K. (2014). *Case study research: Design and methods*. Sage Publications.

ADDITIONAL READINGS

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.

Mackey, A., & Gass, S. M. (2015). *Second language research: Methodology and design* (2nd ed.). Routledge. doi:10.4324/9781315750606

Mackey, A., & Gass, S. M. (2016). *Second language research: Methodology and design* (3rd ed.). Routledge.

Merriam, S. B., Tisdell, E. J., & Wilson, L. M. (2019). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Ochs, E., & Schieffelin, B. B. (2012). The theory of language socialization. In A. Duranti, E. Ochs, & B. B. Schieffelin (Eds.), *The handbook of language socialization* (pp. 1–21). Wiley-Blackwell.

Paltridge, B., & Phakiti, A. (Eds.). (2015). *Research methods in applied linguistics: A practical resource*. Bloomsbury Publishing.

Plano Clark, V. L., & Creswell, J. W. (2015). *Understanding research: A consumer's guide* (2nd ed.). Pearson.

Richards, K. (2015). *Qualitative inquiry in TESOL*. Palgrave Macmillan.

Silverman, D. (2019). *Qualitative research* (5th ed.). SAGE Publications.

Tashakkori, A., & Teddlie, C. (Eds.). (2010). *SAGE handbook of mixed methods in social & behavioral research* (2nd ed.). SAGE Publications. doi:10.4135/9781506335193

KEY TERMS AND DEFINITIONS

Audio Data: Data obtained from recordings of spoken interactions, conversations, or ambient sounds, which provides the researcher with auditory insights into the research phenomena.

Digital Data: Information collected from digital sources such as websites, social media platforms, or online databases, which provides the researcher with electronic records for analysis.

Documentary Data: Data comes from analyzing written, visual, or audio materials, such as texts, images, recordings, or artifacts, to uncover participants' insights.

Field Notes: Written records of observations, reflections, and impressions made by researchers during their fieldwork or data collection activities.

Interview Data: Information obtained through structured or semi-structured interviews with individuals, allowing researchers to explore participants' perspectives and experiences.

Observational Data: Data collected through direct observation of people, events, or phenomena in their natural environment. This offers the researcher the firsthand insights.

Participants' Artifacts: Items created or provided by participants, such as journals, artworks, or personal documents, which offers the researcher unique perspectives and insights about the research issue.

Philosophical Assumption: Researchers' assumption of the epistemology, or "the theory of knowledge", that guides them to answer the question of "how we know what we know".

Qualitative Data: Descriptive information that the researcher use to understand phenomena in-depth, focusing on meanings, interpretations, and context.

Quantitative Data: Numerical information which is used for statistical analysis, providing measurable and objective insights.

Visual Data: Information gathered from visual sources like photographs, videos, or diagrams, with the aim to provide additional context and understanding.

Chapter 5

Qualitative Data Analysis

Cuong Huy Pham

 <https://orcid.org/0000-0001-6876-0493>

Faculty of English, Ho Chi Minh City University of Economics and Finance, Vietnam

ABSTRACT

Qualitative research has gained traction in applied linguistics, particularly language education, as it offers situated perspectives on teaching and learning practices and individual differences. However, qualitative data analysis is an onerous process that is contingent on an array of elements, including the settings encompassing the research, researchers' subjectivity, and the nature of the collected data. This chapter focuses primarily on approaches to qualitative data analysis, the significance of context in interpreting qualitative data, and procedures for transcribing and coding data. It also discusses the role and extent of influence of researchers on data analysis and methods of triangulation. Two prominent tools, i.e. content analysis and thematic analysis, are presented in detail showcasing the underlying principles, the steps involved in data analysis, and their respective values and limitations. The chapter concludes with a summative emphasis on major attributes of qualitative data analysis and researchers' role in analyzing and interpreting qualitative data.

INTRODUCTION

Qualitative data analysis is a demanding and recursive endeavor that involves both deductive and inductive approaches to reasoning, thinking, and theorizing that underpin the process of mining value and meaning out of the data (Hennink et al., 2020; Taylor et al., 2016). These elements are crucial to the development of codes that are predetermined by existing theory or those arising out of the data. Through this process, researchers bring distinct perspectives and shed new light on the investigated phenomenon with stringent consideration of the research aims, the allocation of time and resources, the research settings, their own role and research experience, and the theoretical assumption driving the study. They may feel overwhelmed with voluminous data of different types that takes hours of intensive labor and critical analysis (Creswell & Báez, 2021). As Nowell et al. (2017, p. 2) note, “the researcher becomes the instrument for analysis, making judgments about coding, theming, decontextualizing, and recontextualizing the data”. However, it is not a one-off undertaking but rather an iterative one in which

DOI: 10.4018/979-8-3693-2603-9.ch005

researchers conduct ongoing interpretation, refinement, and revision of the findings. For this reason, data collection and data analysis often occur simultaneously as researchers need to develop a full grasp of the data and be constantly cognizant of emerging themes or ideas to determine the next stage of their study. This chapter aims to provide both theoretical and practical insights into qualitative data analysis from initial scrutiny of raw data to a finely tuned presentation of the findings. It begins with a critical overview of two primary approaches to qualitative data analysis, followed by a discussion on the role of context in analyzing qualitative data. The chapter continues with elaboration on the transcribing and coding procedures, researcher subjectivities, thematic analysis, and content analysis. The conclusion recaps the key points addressed throughout the chapter and highlights its limitations.

APPROACHES TO QUALITATIVE DATA ANALYSIS

Two fundamental approaches to qualitative data analysis stem from the deductive and inductive dichotomy that hinges on the relationship between data and theory, coding procedures, research focus and other underlying principles. Hennink et al. (2020, p. 270) propound that “data analysis involves the interplay between induction and deduction.” In the same vein, Bingham and Witkowsky (2022, p. 134) argue that “A data analysis process that draws on both deductive and inductive practices supports a more organized, rigorous, and analytically sound qualitative study.” Specifically, the deductive approach involves utilizing a predetermined framework or a set of existing concepts that provide a lens through which the data is interpreted (Azungah, 2018; Braun & Clarke, 2006). This theory-driven or top-down approach is particularly useful for organizing or sorting data into themes or categories that are informed by contemporary literature or theory (Bingham, 2023). The focus of deductive strategies is on substantiating, confirming, refining, or refuting existing theory based on the evidence extracted from the data. While this approach enables researchers to gain in-depth insights into the details and nuances in the data, the sole reliance on the prescribed theories or concepts may lead to the risk of overlooking other significant elements or over-interpreting the data (Kennedy & Thornberg, 2017). Conversely, the inductive approach aims to develop new concepts, theories, or patterns from the collected data. Researchers adopting this approach often spend a large amount of time scrutinizing the data repetitively to identify and assign codes out of the text they examine. Thomas (2006, p. 239) notes that “although the findings are influenced by the evaluation objectives or questions outlined by the researcher, the findings arise directly from the analysis of the raw data, not from a priori expectations or models.” In other words, this data-driven or bottom-up approach allows the data to guide the exploration and understanding of the research problems through which unanticipated findings and novel ideas emerge. As a result, it seems messier than the deductive approach since “inductive practices go beyond sorting and require the researcher to pull out what is happening in the data and allow the data to speak to them” (Bingham & Witkowsky, 2022, p. 141). Yet, its value lies in the development of in-depth understandings of the specific context or phenomenon under study as well as capturing the complexity of the data.

CONTEXT IN QUALITATIVE DATA ANALYSIS

Qualitative research is intrinsically contextually laden as its primary aim is to offer situated and detailed insights into a specific phenomenon. Context has been found to be an essential element in analyzing and

Qualitative Data Analysis

interpreting qualitative data (Dörnyei, 2007; Oltmann, 2016; Souza et al., 2016). Hennink et al. (2020, p. 280) view qualitative data analysis as a process of immersion in the data “to identify the unique perspectives of your study participants, understand social or cultural meanings attached to behavior and begin to explain people’s beliefs or behaviors.” It is evident that the sociocultural context embracing the study is significant in explicating the messages from the participants and the underlying reasons behind such input. Research in applied linguistics has used various alternative terms to refer to context including settings, environments, or learning conditions, and tended to treat it as an independent external variable impacting on language learning and other elements encompassing learners. This view considers context and learners as distinct and separate entities, thus overlooking the “dynamically evolving relationship between learner and context, as each responds and adapts to the other” (Ushioda, 2015, p. 47). From this perspective, context is central to interpreting a person’s beliefs, attitudes, behaviors, and other related dimensions.

Another property of qualitative data analysis is its thick description that facilitates the visualization of the incidents happening to the research participants to develop a holistic understanding of their life-world (Chilisa & Phatshwane, 2022; Merriam & Tisdell, 2016). Thick description is used “as a way of describing observations and interpretations that incorporate a level contextual detail. Thick descriptions take into account the directly unobservable contextual understandings that make an action or social event meaningful” (Kostova, 2017, p. 1). It provides the backdrop that accounts for the specific meaning of certain behavior or the causes of the incident. However, in interpreting qualitative data, researchers often engage themselves in the process of “(re-)constructions of what the participants construct at the time” (Wolff, 2004, p. 48) that may impede the authenticity of the account presented. To ensure truthful reflection of reality requires concise descriptions of the context entailing the actors, i.e., those who are involved, the settings, their interactions, experiences, thoughts, emotions and actions (Younas et al., 2023). Such details are significant for elaborating on the way in which participants’ stories are unfolded as well as validating researchers’ interpretations of the data.

TRANSCRIBING AND CODING

Transcribing Verbal Data

Transcribing verbal data from research tools such as interviews, focus groups or recorded conversations is an essential precursor for analyzing qualitative data. Bailey (2008, p. 130) reminds that “transcribing is an interpretive act rather than simply a technical procedure, and the close observation that transcribing entails can lead to noticing unanticipated phenomena.” In other words, transcription is an opportunity for researchers to gain initial insights into the data and actively look for unanticipated elements. The discussion here focuses on the role of researchers as transcribers and transcript users, which is considered an ideal scenario, rather than seeking external transcribing support (Easton et al., 2000). Researchers can start transcribing recordings as they finish the first interview or wait until all the desired data have been collected. There are several benefits of conducting early transcription as researchers may identify emerging issues or certain interesting or important findings that need further exploration in subsequent interviews (Hennink et al., 2020). Before conducting the transcription, it is recommended to listen to the recordings a couple of times to become familiar with the content, especially the nuances and context of the interaction. It is also important to decide on the transcribing conventions, whether to adopt the ver-

batim format, i.e. taking note of every single word, or modified verbatim by omitting unimportant details such as speech fillers, repetitions, or false starts or making slight adjustments to grammar. The research question may guide the level of detail required in the transcript regarding the retention of paralinguistic components such as pauses, the duration of utterances, pitch, or loudness (Kowal & O'Connell, 2014). It also determines whether to conduct full, partial, or summary transcription to meet the analytical needs (McLellan et al., 2003). For example, long transcript extracts are desired if the analytical emphasis is on participants' attitudes or beliefs "to demonstrate variations in how social phenomena are framed, articulated, and experienced as well as the relationships within and between particular elements of such phenomena" (McLellan et al., 2003, p. 67). During the transcription, researchers need to be constantly aware of possible errors that may change the original meaning, such as inaccurate punctuation, mistyped words, or misinterpretation or mishearing a word. A repercussion of this is the failure to identify key themes or inclusion of non-existent themes (Easton et al., 2000).

Coding Qualitative Data

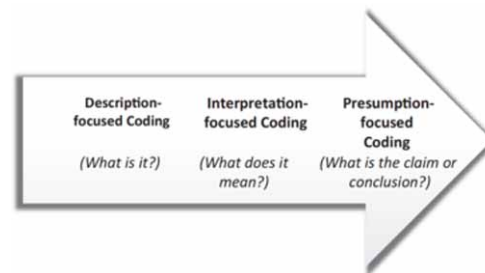
Coding is a crucial step in qualitative data analysis and the procedures vary according to the type of data collected, whether it is textual (e.g., interview transcript and observation notes) or visual data (e.g., photographs, videos, films, or drawings). While text has been considered a conventional data category, visual data offers an important retrospective tool to gain insights into a phenomenon. As the smallest units of analysis, codes are defined as "issues, topics or concepts that are present in data" (Hennink et al., 2020, pp. 287-288). For instance, if the research topic concerns the challenges confronting language education in rural areas, issues such as facilities, limited funding, teaching staff shortages, and learners' motivation can be regarded as codes (Pham, 2021). Hennink et al. (2020, p. 295) also highlight that a useful code "effectively reflects an issue in data and works well to retrieve relevant segments of text on that specific issue for focused analysis." As such, coding qualitative data involves careful examination and re-examination of segments of data to see what they have to offer and corroborate evidence for certain themes and then collating them in a meaningful way (Creswell & Báez, 2021). This is an iterative process in which researchers carry out ongoing modification, refinement, and revision until codes are fully developed from their initial ideas, vague concepts, or even hunches (Taylor et al., 2016). In the same vein, Baralt (2012) states that the qualitative coding process is characterized by recursive interaction with the data whereby researchers reflect on their coding decisions, question the themes they have tentatively arrived at, and record the patterns they notice. It is of an interpretive nature as it contributes to explicating a certain phenomenon with rich details and bringing out the complexity of human relationships and experiences.

The choice of strategies for coding textual data should be consistent with the research aim and research question guiding the study. This chapter focuses on Adu's (2019) DIP coding method which is abbreviated for three coding strategies: **D**escription-focused coding, **I**nterpretation-focused coding, and **P**resumption-focused coding as illustrated in Figure 1.

According to Adu (2019), description-focused coding involves providing a brief description of events, settings, behaviors, experiences, or stories without any interpretation from researchers. With this strategy, researchers' role is to report the data the way it is, leaving the data to speak for itself. Their background and other subjective elements have no significant influence on the coding. As a result, concrete codes are generated with a high level of meaning transparency. Description-focused coding is recommended for research that aims to identify or describe specific behaviors, settings, phenomena, experiences, or

Qualitative Data Analysis

Figure 1. Adu's (2019, p. 28) three coding strategies under the DIP coding method



events, and has a relatively simple dataset. It is also particularly useful for studies whose research questions begin with what, when, where or who. With the interpretation-focused coding strategy, researchers are engaged in a meaning-making process in which the codes generated demonstrate their understandings and interpretation of the data. This strategy allows researchers to utilize their prior knowledge, experiences, and interpretive lens to impact their coding. It is more suitable for exploratory or explanatory research and can deal with a complex dataset. Finally, presumption-focused coding requires a higher level of critical evaluation and creativity from researchers. From the evidence in the data, they draw conclusions or make claims about the codes they develop. It is essential that these conclusions or claims are substantiated with ample evidence to be treated as valid. With such complexity, the codes created with this strategy tend to be more abstract than those with a description focus. Presumption-focused coding is ideal for research that aims to make judgements, propose recommendations for a certain phenomenon, or evaluate the effectiveness of a given method. It is evident that each strategy within the DIP coding method has its own strengths and weaknesses and caters to different research purposes and kinds of data.

Regarding the strategies for coding visual data, codes can be applied to an entire image or aspects or areas of an image. Visual data, particularly images or photographs, provides vivid snapshots of non-verbal behavior that are highly useful for delineating the context of human interaction as well as critical incidents. Creswell and Báez (2021) propose an eight-step method of treating images as observations whereby researchers record the observational notes of the special features of chosen images and then use these notes as data for coding. The first step is preparing the visual data for analysis, for example, making sure that there is enough space for leaving notes on the images. In the second step, researchers tag areas of the images with codes. The third and fourth steps involve creating a list of codes on a separate document sheet, removing any redundant or overlapping codes and reducing them to tentative themes. In the fifth step, codes are grouped together under the themes that show common ideas. Next, researchers classify the codes and themes under three categories, namely expected, surprising and unusual, to ensure that the findings can embrace different angles of reflection. Then, the codes and themes are distributed on a conceptual map to represent the flow of ideas that helps facilitate the follow-up analysis. Finally, researchers write the narrative for each of the themes or a general summary that represents the overall findings of the study.

RESEARCHER SUBJECTIVITY AND APPROACHES TO ADDRESSING SUBJECTIVITY

Analysis of qualitative data is highly contingent on researchers' lived experiences and interpretive perspectives on the phenomenon (Flick, 2022; Mirhosseini, 2020; Ratner, 2002). This interplay is integral to the qualitative paradigm where contextual elements take an indispensable role, necessitating understandings of both micro- and macro-settings in deciphering the underlying messages in the data. Researchers are intensively involved in the scrutiny of qualitative data, identifying patterns, themes, and meanings to produce coding, categorization, and interpretation of the data. Analytical procedures lend themselves substantially to researchers' subjective resources, backgrounds, values, and beliefs that are woven in their interpretation. According to Lundberg et al. (2023, p. 4511), subjectivity is traditionally viewed as reflecting "personal perspectives, individual goals, deviation from standards, and distorted or biased evaluations" and has been downplayed as lacking scientific grounds. From a constructivist standpoint, researchers' input is valuable in the ongoing process of knowledge making, contributing to the diverse ways in which the same reality can be observed and represented (Hanson, 2015). Subjectivity is thus inherent in delineating social phenomena as it does not essentially refute reality but rather reflecting life events from a certain angle. It enriches qualitative findings by offering more nuanced insights into human experiences and ensuing issues that are situated in specific context through the lenses of individual researchers (Gough, 2017). However, it may provoke the danger of solely projecting the perverted perspective of a single researcher that potentially compromises the credibility and trustworthiness of the findings or presents an incomplete picture (Haven & van Grootel, 2019).

To mitigate the impact of researcher subjectivity and ensure transparency throughout the data analysis, qualitative researchers often adopt various approaches including reflexivity, triangulation, and member checking. Reflexivity is seen as a defining feature of contemporary qualitative research that involves personal introspection, intersubjective reflection, mutual collaboration, social critique, and discursive deconstruction (Finlay, 2002). The first process involves examination of personal experience and meanings whereas the second, third and fourth components are concerned with mutual understandings resulting from the interaction and relationship between researchers and participants, their co-construction of meaning and management of power respectively. The final component focuses on deconstructing the language use aiming to reduce ambiguity and ensure its accessibility to the wider community. In the same vein, Berger (2013) argues that researchers are responsible for reviewing their own role in knowledge creation, alleviating the influence of their own biases, beliefs and personal experiences, and sustaining the balance between personal assumptions and universal values. Regarding the second approach to tackling subjectivity, triangulation is essentially the comparison of different kinds of data (e.g., visual, textual or verbal data) or methods (interview, observation, or participant diaries) in a single research project to evaluate their corroboration (Silverman, 2022; Taylor et al., 2016). Flick (2018, p. 530) propounds that "triangulation can be an important asset on the route to a broader, more differentiated, and comprehensive understanding of what is studied." This combination of multiple data types and methods aims to enhance the credibility of qualitative data and minimize researchers' biased positioning in data analysis. Lastly, member checking, also known as respondent validation or participant validation, is normally conducted once the data has been transcribed and/or analyzed. At these stages, the data or results are returned to the participants for them to check for the accuracy and resonance with their input as a way of ascertaining their trustworthiness (Birt et al., 2016). However, Thomas (2016) notes that member checking may

Qualitative Data Analysis

pose further burdens on participants in reviewing the data or results, elicit no further responses from them, result in little or no significant changes in the data or results, or require additional data for analysis.

THEMATIC ANALYSIS

Thematic analysis is a flexible and systematic method for identifying and analyzing patterns of meaning or themes embedded in qualitative data such as interviews, focus groups or other forms of textual data (Braun & Clarke, 2006; Joffe, 2011). This method aims to carve out the most salient aspects of meaning to provide “a rich and detailed, yet complex account of the data” (Nowell et al., 2017, p. 2). Researchers adopting thematic analysis often subscribe to a descriptive and interpretive approach in which they are immersed in a wealth of data in seeking emerging themes for sorting out the data and reporting the findings. A theme is defined as “a red thread of underlying meanings, within which similar pieces of data can be tied together and within which the researcher may answer the question ‘why?’” (Vaismoradi & Snelgrove, 2019, p. 2). It is a summation of codes elicited from the data based on researchers’ subjective interpretation and the overarching socio-cultural context. This subjectivity results from their experiences, theoretical perspectives, understandings of existing literature, levels of mastery of the data, as well as their creativity. Therefore, Joffe (2011) calls for devising and complying with specific criteria for determining what codes to be included under a certain theme to reduce researchers’ bias and subjectivity. This involves providing a detailed description of the coding procedures and criteria, and the ways in which such codes and patterns corroborate into themes and the interpretations made by researchers (Castleberry & Nolen, 2018). Themes can be identified deductively according to a pre-formulated theoretical or conceptual framework or inductively as they emerge from the data (Terry et al., 2017). They can be derived either from the explicit content that is directly observed, also known as semantic themes, such as learners’ classroom behavior or teachers’ employment of a certain teaching strategy in a language lesson, or latent content implicated in the data, such as underlying ideas and assumptions, that needs to be deciphered through researchers’ lens (Braun & Clarke, 2006).

Thematic analysis has been found to be a useful and powerful tool for both novice and established qualitative researchers to gain understandings of participants’ experiences, beliefs, and behavior across a set of data (Clarke & Braun, 2016). To conduct thematic analysis, Braun and Clarke’s (2006) six-phase method has been widely adopted within the qualitative literature (Castleberry & Nolen, 2018; Pham, 2023). The term “phase” is used to denote that this method “is not a strictly linear process. Instead, it is iterative and recursive: the researcher often moves back and forth between the different phases” (Terry et al., 2017, p. 23). The analytic process is detailed in Table 1.

According to Braun and Clarke (2006), the first phase is an entry point into analysis at which researchers get actively immersed in the dataset and examine it critically. They are expected to repetitively scrutinize all the textual data and concurrently take notes, be cognizant of any interesting patterns, or pose questions in relation to the research question. This is the opportunity for researchers to develop preliminary and tentative analytic ideas and a general sense of the data. In the second phase, researchers begin to develop initial codes that embrace meaning relevant to the research question. This coding process is iterative but flexible as researchers may revisit the codes they have developed and make necessary changes or modifications. This phase results in a list of codes that capture the patterns and meaning exhibited in the dataset. The third phase involves constructing themes based on the patterns of meaning observed in the previous phases and the research question. The codes developed earlier and

Table 1. Phases of thematic analysis (Braun & Clarke, 2006, p. 87)

Phases	Description of the process
1. Familiarizing yourself with your data	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

their associated data are examined and grouped together into more overarching meaningful patterns. To facilitate this process, Terry et al. (2017) suggest using visual aids such as thematic maps or tables to assist researchers in identifying potential themes and see the associations among the themes as well as their relation to the overall dataset. In the next phase, the tentative themes formulated in phase three are reviewed to check whether they represent all the data extracts (Level 1) and capture the most salient aspects of these quotes. At Level 2, these themes must be aligned with the story embedded in the whole dataset and not miss any important dimensions. This story and the themes are then evaluated against their ability to respond to the research question. The fifth phase requires researchers to adopt an interpretive frame in defining and naming the themes so that they are clear, cohesive, precise, and engaging. A theme definition should be brief and contain its core idea or meaning whereas the theme name concisely conveys the key message of the theme and invites readers to the analysis. Finally, the report presents a complete analysis of the story implicated in the dataset by pulling together the themes, their corresponding extracts, and researchers' interpretation in a succinct, logical, and captivating manner. It is not intended merely as a description of the data but rather incorporates researchers' critical evaluation of the data in response to the research question.

Drawing on Braun and Clarke's (2006) analytical model, Pham (2023) examined the role of significant others, such as parents, peers, teachers, and members of wider social networks, in shaping Vietnamese high school EFL students' motivational constructions. His analysis of interviews, observational notes and casual conversations with the students and their parents provided rich insights into their lifeworlds. The key themes emerging from the data concerned significant others' language and financial support and their contribution to instilling the value of language education, and arousing and sustaining the students' L2 motivation. However, the data also showed the negative influences from these social others through the academic pressure they exerted on the students. Utilizing the same analytical method, Alzaanin (2023) investigated teachers' conceptualizations of L2 learner engagement and perceptions of the factors affecting learner engagement in a Saudi university context. She adopted an inductive approach to data analysis allowing the themes to arise out of the data without imposing any pre-determined theoretical framework. Through her immersion in the six phases of thematic analysis of interview data, she identified various themes that reflected teachers' multifaceted conceptualizations of learner engagement, and five facilitative and three inhibiting factors encompassing the learning process.

Qualitative Data Analysis

Despite its usefulness and ease of access, many researchers have expressed doubt about the philosophical underpinning of thematic analysis and raised many issues related to inconsistency and coherence, and subjectivity. Joffe (2011, p. 211) addresses its philosophical weakness for not being “tied to a particular theoretical outlook.” Similarly, Kiger and Varpio (2020, p. 2) argue that “thematic analysis is not bound to a particular paradigmatic orientation.” This lack of theoretical foundation has led many researchers to downplay it and not to label it as a discrete analytical method (Braun & Clarke, 2006). However, the absence of theoretical commitments is not necessarily a drawback but rather makes it compatible with a range of theoretical frameworks and research paradigms (Clarke & Braun, 2016). Although thematic analysis has been noted for its high flexibility (Braun & Clarke, 2006; Terry et al., 2017), this property is attributable to its limited consistency and coherence. As Holloway and Todres (2003, p. 347) point out, there exists a tension between flexibility or “do what works” and consistency and coherence or “the kind of knowledge generated in the results or presentation section does what it said it would do under the aims of the project.” In other words, researchers need to adopt rigorous procedures for analyzing the data and presenting the findings with rigid reference to the research aims and research questions to ensure the alignment of all components throughout the research project. As seen in Table 1, the whole analytical process relies on researchers’ maneuvering of the data, sparking off a high risk of subjectivity. Whereas researcher subjectivity is viewed as “a resource” in thematic analysis as it draws on their experiences, personal insights and creativity (Braun & Clarke, 2019, p. 591), there remains the danger of “a manual bias introduced to data by the researcher” (Vaismoradi & Snelgrove, 2019, p. 10). It is evident that subjectivity is inevitable in qualitative research, so researchers are advised to take prudent measures, as discussed earlier, for minimizing their biased influences on data analysis without sacrificing their invaluable input in this process.

CONTENT ANALYSIS

Content analysis is a systematic method of analyzing qualitative data to gain understandings of the complexities of human experiences, perceptions, and social phenomena. It involves “establishing categories and then counting the number of instances when those categories are used in a particular item of text” (Silverman, 2014, p. 155). The data for content analysis can take various forms entailing textual (e.g., interview transcripts, observation notes, and diaries), visual (e.g., photos, posters, and personal drawings) or other data (e.g., portfolios, newspaper articles, textbooks, and posts on social networking sites). Once the raw data has been selected, researchers commence to develop a coding scheme or a set of categories for capturing relevant data. Mayring (2000) proposes two approaches to category formation including inductive and deductive category development. Inductive categories are tentatively developed and gradually revised based on researchers’ criteria for selecting relevant data as they examine the whole dataset. Conversely, deductive categories are formulated in accordance with the pre-determined theoretical or conceptual foundations so that each category responds to explicit definitions, examples, and coding rules. Selvi (2020) comments that the inductive application can be adopted when there is limited background knowledge of the topic or researchers wish to seek unexpected emerging themes while the deductive approach is more relevant when the research aim is to test a theory or there is an abundance of pre-existing literature framing the research. To ensure the reliability and validity of this method, the codes or categories must be sufficiently precise, mutually exclusive, and exhaustive. Higher reliability

can also be achieved by employing multiple coders to test intercoder reliability, i.e. “whether people think that the same constructs apply to the same chunks of text” (Bernard et al., 2017, pp. 256-257).

Qualitative content analysis processes, whether following the deductive or inductive approach, usually consist of three primary phases: preparation, organization, and reporting of results (Elo et al., 2014). The preparation phase enables researchers to develop initial insights into the data they have collected. In selecting, arranging and organizing the data for analysis, Selvi (2020) advises that researchers should retain relevant contextual elements encompassing the extracts as this method is highly reliant on the context against which the data is examined and interpreted. In the organization phase, the procedures for inductive and deductive analysis differ in the way in which categories are generated as mentioned earlier. Prior to implementing the coding, researchers may want to pretest the categories on part of the selected texts and fix any arising problems to maintain coding consistency. Then researchers apply the coding scheme to the selected data by reading or viewing each item and assign relevant codes or categories. After the coding is completed, there are two analytical options for the reporting phase, either quantitative analysis through frequency counts of the presence of these formulated categories, percentages of different categories or inferential statistics, or qualitative analysis by listing themes or showing patterns and reoccurrences of selected categories. Selvi (2020) draws the distinction between the two analytical methods with the quantitative mode focusing on the explicit meaning of the data whereas the qualitative counterpart emphasizes the latent meaning whose interpretation is situated in the specific research context. The choice of each method is contingent on the aims of the study and the nature of the research question.

In their investigation into the challenges of adopting instructional design principles in Intelligent Computer Assisted Language Learning environments, Weng and Chiu (2023) utilized content analysis to collate 83 peer-reviewed journal articles from different databases. They developed inclusion and exclusion criteria for paper selection encompassing the databases, study type, research context, instructional design, learning outcomes and written language. Content analysis allowed them to identify the frequency of data and develop a rigorous coding scheme that resulted in three major themes of automatic feedback, intelligent tutoring, and personalization. Hawamdeh and Soykan (2021) conducted a similar review of the trends of articles in teaching and foreign language related to mobile technology published between 2014 and 2021. Inclusion criteria and keywords parameters were applied to elicit the mobile applications used, devices used, learning methods and other demographic information. These two articles show that content analysis can be a powerful method for undertaking systematic reviews of issues in applied linguistics and language education.

CONCLUSION

This chapter has elaborated on the approaches, processes, and elements vital to qualitative data analysis. This is a complex and iterative endeavor that requires careful attention to contextual dimensions, mitigation of researchers’ role and subjectivity and concise depiction of participants’ experiences and lifeworld. Both inductive and deductive approaches to data analysis are highlighted with respect to the interplay between theory and data in formulating themes and patterns. In analyzing qualitative data, context has been shown to play a crucial role as it allows developing situated insights into the nuances and complexities of the data. This also involves providing concise and thick description of participants’ profiles, their experiences, emotional reactions, the research settings, and other elements critical to the

Qualitative Data Analysis

understanding of the phenomenon under investigation. The analytical process requires researchers to mitigate their subjectivity, acknowledge and reflect on biases, and adopt various techniques such as reflexivity, triangulation, and member checking to enhance the trustworthiness of the findings. The chapter also presents content analysis and thematic analysis as two commonly employed methods of scrutinizing qualitative data. Whereas content analysis lays its main emphasis on the systematic examination and categorization of textual or visual data, thematic analysis aims to identify and analyze patterns or themes emerging from the data through laborious coding procedures. These methods, together with all the features concerning qualitative data analysis discussed in this chapter, are important to construct and reconstruct the meaning behind every single segment of valuable data shared by participants. One of the key limitations of this chapter is its failure to discuss software dedicated to qualitative data analysis such as NVivo, ATLAS.ti and MAXQDA. These tools can be useful for enhancing the efficiency and effectiveness in organizing, coding and categorizing data as well as saving researchers' time.

REFERENCES

- Adu, P. (2019). *A step-by-step guide to qualitative data coding*. Routledge. doi:10.4324/9781351044516
- Alzaanin, E. I. M. (2023). Uncovering university teachers' perspectives: Conceptualizations, factors, and perceptions of second language learner engagement. *The Qualitative Report*, 28(8), 2230–2257. doi:10.46743/2160-3715/2023.5996
- Azungah, T. (2018). Qualitative research: Deductive and inductive approaches to data analysis. *Qualitative Research Journal*, 18(4), 383–400. doi:10.1108/QRJ-D-18-00035
- Bailey, J. (2008). First steps in qualitative data analysis: Transcribing. *Family Practice*, 25(2), 127–131. doi:10.1093/fampra/cmn003 PMID:18304975
- Baralt, M. (2012). Coding Qualitative Data. In A. Mackey & S. M. Gass (Eds.), *Research methods in second language acquisition: A practical guide* (pp. 222–244). Wiley.
- Berger, R. (2013). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219–234. doi:10.1177/1468794112468475
- Bernard, H. R., Wutich, A., & Ryan, G. W. (2017). *Analyzing qualitative data: Systematic approaches* (2nd ed.). Sage.
- Bingham, A. J. (2023). From data management to actionable findings: A five-phase process of qualitative data analysis. *International Journal of Qualitative Methods*, 22, 1–11. doi:10.1177/16094069231183620
- Bingham, A. J., & Witkowsky, P. (2022). Deductive and inductive approaches to qualitative data analysis. In C. Vanover, P. Mihas, & J. Saldaña (Eds.), *Analyzing and interpreting qualitative data: After the interview* (pp. 133–146). Sage.
- Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, 26(13), 1802–1811. doi:10.1177/1049732316654870 PMID:27340178

- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. doi:10.1191/1478088706qp063oa
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. doi:10.1080/2159676X.2019.1628806
- Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in Pharmacy Teaching & Learning*, 10(6), 807–815. doi:10.1016/j.cptl.2018.03.019 PMID:30025784
- Chilisa, B., & Phatshwane, K. (2022). Qualitative Research within a postcolonial indigenous paradigm. In U. Flick (Ed.), *The Sage handbook of qualitative research design* (pp. 225–239). Sage. doi:10.4135/9781529770278.n15
- Clarke, V., & Braun, V. (2016). Thematic analysis. *The Journal of Positive Psychology*, 12(3), 297–298. doi:10.1080/17439760.2016.1262613
- Creswell, J. W., & Báez, J. C. (2021). *30 essential skills for the qualitative researcher* (2nd ed.). Sage.
- Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative and mixed methodologies*. Oxford University Press.
- Easton, K. L., McComish, J. F., & Greenberg, R. (2000). Avoiding common pitfalls in qualitative data collection and transcription. *Qualitative Health Research*, 10(5), 703–707. doi:10.1177/104973200129118651 PMID:11066874
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, 4(1), 1–10. doi:10.1177/2158244014522633
- Finlay, L. (2002). Negotiating the swamp: The opportunity and challenge of reflexivity in research practice. *Qualitative Research*, 2(2), 209–230. doi:10.1177/146879410200200205
- Flick, U. (2018). Triangulation in data collection. In U. Flick (Ed.), *The Sage handbook of qualitative data collection* (pp. 527–544). Sage. doi:10.4135/9781526416070.n34
- Flick, U. (Ed.). (2022). *The Sage handbook of qualitative research design*. Sage. doi:10.4135/9781529770278
- Gough, B. (2017). Reflexivity in qualitative psychological research. *The Journal of Positive Psychology*, 12(3), 311–312. doi:10.1080/17439760.2016.1262615
- Hanson, B. (2015). Objectivities: Constructivist roots of positivism. *Quality & Quantity*, 49(2), 857–865. doi:10.1007/s11135-014-0027-6
- Haven, T., & van Grootel, L. (2019). Preregistering qualitative research. *Accountability in Research*, 26(3), 229–244. doi:10.1080/08989621.2019.1580147 PMID:30741570
- Hawamdeh, M., & Soykan, E. (2021). Systematic analysis of effectiveness of using Mobile Technologies (MT) in teaching and learning foreign language. *Online Journal of Communication and Media Technologies*, 11(4), 1–12. doi:10.30935/ojcm/11256
- Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative research methods* (2nd ed.). Sage.

Qualitative Data Analysis

- Holloway, I., & Todres, L. (2003). The status of method: Flexibility, consistency and coherence. *Qualitative Research*, 3(3), 345–357. doi:10.1177/1468794103033004
- Joffe, H. (2011). Thematic analysis. In D. Harper & A. R. Thompson (Eds.), *Qualitative research methods in mental health and psychotherapy: A guide for students and practitioners* (pp. 209–223). Wiley. doi:10.1002/9781119973249.ch15
- Kennedy, B. L., & Thornberg, R. (2017). Deduction, induction, and abduction. In U. Flick (Ed.), *The Sage handbook of qualitative data collection* (pp. 49–64). Sage.
- Kiger, M. E., & Varpio, L. (2020). Thematic analysis of qualitative data: AMEE guide no. 131. *Medical Teacher*, 42(8), 846–854. doi:10.1080/0142159X.2020.1755030 PMID:32356468
- Kostova, I. (2017). Thick description. In B. S. Turner (Ed.), *The Wiley-Blackwell encyclopedia of social theory* (pp. 1–2). Wiley.
- Kowal, S., & O’Connell, D. C. (2014). Transcription as a crucial step of data analysis. In U. Flick (Ed.), *The Sage handbook of qualitative data analysis* (pp. 64–78). Sage. doi:10.4135/9781446282243.n5
- Lundberg, A., Frascini, N., & Aliani, R. (2023). What is subjectivity? Scholarly perspectives on the elephant in the room. *Quality & Quantity*, 57(5), 4509–4529. doi:10.1007/s11135-022-01565-9
- Mayring, P. (2000). Qualitative content analysis. *Forum Qualitative Social Research*, 1(2), 1–10. doi:10.17169/fqs-1.2.1089
- McLellan, E., MacQueen, K. M., & Neidig, J. L. (2003). Beyond the qualitative interview: Data preparation and transcription. *Field Methods*, 15(1), 63–84. doi:10.1177/1525822X02239573
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.
- Mirhosseini, S.-A. (2020). *Doing qualitative research in language education*. Macmillan. doi:10.1007/978-3-030-56492-6
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1), 1–13. doi:10.1177/1609406917733847
- Oltmann, S. M. (2016). Qualitative interviews: A methodological discussion of the interviewer and respondent contexts. *Forum Qualitative Sozialforschung/Forum: Qualitative. Social Research*, 17(2), 1–16.
- Pham, C. H. (2021). English language education in rural areas: Current issues, complexities and ways forward. *VNU Journal of Science: Education Research*. doi:10.25073/2588-1159/vnuer.4538
- Pham, C. H. (2023). Examining the role of significant others in Vietnamese high school EFL students’ motivational constructions. *Learning: Research and Practice*, 9(1), 4–22. doi:10.1080/23735082.2022.2134574
- Ratner, C. (2002). Subjectivity and objectivity in qualitative methodology. *Forum Qualitative Sozialforschung/Forum: Qualitative. Social Research*, 3(3). <http://nbn-resolving.de/urn:nbn:de:0114-fqs0203160>

- Selvi, A. F. (2020). Qualitative content analysis. In J. McKinley & H. Rose (Eds.), *The Routledge handbook of research methods in applied linguistics* (pp. 440–452). Routledge.
- Silverman, D. (2014). *Interpreting qualitative data* (5th ed.). Sage.
- Silverman, D. (2022). *Doing qualitative research* (6th ed.). Sage Publications.
- Souza, F. N., Neri, D. C. D. S. B., & Costa, A. P. (2016). Asking questions in the qualitative research context. *The Qualitative Report*, 21(13), 6–18. doi:10.46743/2160-3715/2016.2607
- Taylor, S. J., Bogdan, R., & DeVault, M. L. (2016). *Introduction to qualitative research methods: A guidebook and resource* (4th ed.). Wiley.
- Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. In C. Willig & W. S. Rogers (Eds.), *The Sage handbook of qualitative research in psychology* (2nd ed., pp. 17–37). Sage. doi:10.4135/9781526405555.n2
- Thomas, D. R. (2006). A general inductive approach for analysing qualitative evaluation data. *The American Journal of Evaluation*, 27(2), 237–246. doi:10.1177/1098214005283748
- Thomas, D. R. (2016). Feedback from research participants: Are member checks useful in qualitative research? *Qualitative Research in Psychology*, 14(1), 23–41. doi:10.1080/14780887.2016.1219435
- Ushioda, E. (2015). Context and complex dynamic systems theory. In Z. Dörnyei, A. Henry, & P. MacIntyre (Eds.), *Motivational dynamics in language learning* (pp. 47–54). Multilingual Matters.
- Vaismoradi, M., & Snelgrove, S. (2019). Theme in qualitative content analysis and thematic analysis. *Forum Qualitative Sozialforschung/Forum: Qualitative. Social Research*, 20(3), 1–14. doi:10.17169/fqs-20.3.3376
- Weng, X., & Chiu, T. K. F. (2023). Instructional design and learning outcomes of intelligent computer assisted language learning: Systematic review in the field. *Computers and Education: Artificial Intelligence*, 4, 1–12. doi:10.1016/j.caeai.2022.100117
- Wolff, S. (2004). Clifford Geertz. In U. Flick, E. v. Kardorff, & I. Steinke (Eds.), *A companion to qualitative research* (pp. 47–52). Sage.
- Younas, A., Fàbregues, S., Durante, A., Escalante, E. L., Inayat, S., & Ali, P. (2023). Proposing the “MIRACLE” narrative framework for providing thick description in qualitative research. *International Journal of Qualitative Methods*, 22, 1–13. doi:10.1177/16094069221147162

ADDITIONAL READINGS

- Bui, K. T., Bui, H. P., & Hejsalem-Brahmi, M. (2023). Qualitative research in social sciences: Data collection, data analysis and report writing. *International Journal of Public Sector Performance Management*, 12(1-2), 187–209. doi:10.1504/IJSPSPM.2023.132247

Qualitative Data Analysis

Chong, S. W., & Plonsky, L. (2023). A typology of secondary research in Applied Linguistics. *Applied Linguistics Review*, 1-26. doi:10.1515/applirev-2022-0189

Gao, J., Pham, Q. H. P., & Polio, C. (2022). The role of theory in quantitative and qualitative second language learning research: A corpus-based analysis. *Research Methods in Applied Linguistics*, 1(2), 1–14. doi:10.1016/j.rmal.2022.100006

Henry, A., & MacIntyre, P. D. (2024). Keeping in time: The design of qualitative longitudinal research in SLA. *Research Methods in Applied Linguistics*, 3(1), 1–11. doi:10.1016/j.rmal.2024.100102

Wa-Mbaleka, S., & Rosario, A. (Eds.). (2022). *The Sage handbook of qualitative research in the Asian context*. Sage Publications. doi:10.4135/9781529781731

KEY TERMS AND DEFINITIONS

Content Analysis: This is a systematic method of quantifying qualitative data by creating categories and then counting the number of instances of such categories.

Deductive Approach: This approach relies on a predetermined framework or a set of existing concepts as the theoretical basis for interpreting data.

Inductive Approach: This approach aims to develop new concepts, theories, or patterns based on the data collected.

Subjectivity: This construct reflects a personal perspective in interpreting the phenomenon under investigation with little alignment with norms and standards of practice.

Thematic Analysis: This method of data analysis adopts a descriptive and interpretive approach in seeking emerging themes from a wealth of data.

Chapter 6

Ensuring Credibility and Trustworthiness in Qualitative Inquiries

Truong Cong Bang

 <https://orcid.org/0000-0001-8840-252X>

University of Economics and Law, Ho Chi Minh City, Vietnam & Vietnam National University, Ho Chi Minh City, Vietnam

ABSTRACT

This chapter examines conceptualizations and applications of validity in qualitative research within applied linguistics and language education. It outlines the importance of addressing validity given the complexity of language phenomena and contextual embeddedness of language research. Strategies to enhance ethical qualitative practice are discussed. Limitations of existing validity approaches for these fields are critiqued and alternative perspectives proposed. Additionally, the chapter analyzes myriad validity considerations regarding the multifaceted nature of language and aims of language-focused inquiries, providing case study examples. Methodological and ethical strategies to strengthen qualitative research validity are explored, emphasizing reflexivity and researcher positionality. The chapter argues for embracing expanded conceptual lenses aligned with ethical priorities to realize rigorous, equitable and justice-oriented qualitative practice.

INTRODUCTION

Qualitative research has become increasingly vital for expanding our understanding of applied linguistics and language teaching and learning processes (Yahya et al., 2023). Through methods such as interviews, observations, and document analysis, qualitative approaches allow for an in-depth examination of the complex phenomena involved in language education (Costa et al., 2022). However, as qualitative research continues to gain prominence in these fields, addressing issues of validity has become imperative.

Validity refers to the trustworthiness and credibility of research findings, ensuring that interpretations accurately represent participants' realities and the phenomena under study (Lincoln & Guba, 1985).

DOI: 10.4018/979-8-3693-2603-9.ch006

Ensuring Credibility and Trustworthiness in Qualitative Inquiries

Concerns around validity in qualitative research have been debated for decades, with seminal discussions emerging in the 1980s and 1990s on how to evaluate qualitative evidence and establish quality standards (Kirk & Miller, 1986; Lather, 1993; Maxwell, 1992). More recently, validity has been the subject of extensive methodological discussions as qualitative approaches continue diversifying (Cian, 2021; Miksza et al., 2023).

The multifaceted nature of language phenomena makes validity particularly pertinent in applied linguistics and language education research. Language learning, teaching, use, and policies are shaped by a complexity of intersecting factors, including linguistic, psychological, sociocultural, political, and historical dimensions that interact in intricate ways (Block et al., 2012; Kramsch, 2006; Norton, 2013). For instance, language practices are mediated by the cultural norms, power structures, and lived experiences within particular communities (Beebe & Giles, 1984). They are also situated within broader sociohistorical discourses that frame language ideologies and shape opportunities for language learning and use (Genç, 2023).

Qualitative approaches are well-suited to unpacking this complexity by centering diverse stakeholders' lived experiences and perspectives, such as those of language learners, teachers, and policymakers (Duff, 2008; Kumaravadivelu, 2006). However, to ensure insights are credible and can reliably inform applied fields, researchers must systematically address validity through rigorous methodological strategies (Jixing & Shiyi, 2019). This is crucial for developing effective policies and practices, as well as advancing scholarly understanding of sociocultural dimensions of language.

This chapter provides a comprehensive examination of the conceptualization and application of validity in language-related qualitative research. It outlines the importance of validity for producing meaningful insights that enhance our understanding of learning, teaching, and educational environments. The goal is to delve into this vital issue and offer guidance to applied linguistics and language education researchers seeking to demonstrate the rigor and credibility of their qualitative studies.

CONCEPTUALIZING VALIDITY IN QUALITATIVE RESEARCH

Validity represents a central quality standard underpinning the rigor and perceived credibility of scholarly research. However, validating qualitative research has proven complex given extensive epistemological debates across paradigms (Cho & Trent, 2006; Whittemore et al., 2001). Positivist perspectives that dominated early conceptualizations assume an objective, knowable reality whereby validity denotes the truthfulness with which findings match an external world (Kirk & Miller, 1986; Maxwell, 1992). This stance advocates methodological controls to reduce biases and establish causality. Yet the applicability of imposing such natural science models to qualitative approaches has undergone substantial critiques from postpositivist, constructivist, critical, feminist, and postmodern paradigms (Guba & Lincoln, 1994; Lather, 1993; Richardson & Pierre, 2005).

Postpositivists reconceive validity via critical realism as imperfect efforts to represent presumed existing realities, while constructivists argue individuals intersubjectively co-create knowledge and meanings (Guba & Lincoln, 1994, 2005). These perspectives highlight the inescapable subjectivity and contextual embeddedness of qualitative inquiries. Critical, feminist, and postmodern paradigms further interject skepticism by situating research within sociopolitical power dynamics and rejecting the possibility of neutral, objective results (Lather, 1993). These clashing worldviews undergird extensive conceptual and

terminological debates over validity's meanings and parameters in qualitative scholarship (Cho & Trent, 2006; Whitemore et al., 2001).

Seeking new vocabularies and procedures better suited to qualitative epistemologies, seminal scholars have forwarded additional frameworks using alternative pillars and language to demarcate rigor (Cho & Trent, 2006; Davies & Dodd, 2002; Lincoln & Guba, 1985). Lincoln and Guba (1985) substituted dependability, credibility, transferability, and confirmability to signal a constructivist orientation emphasizing co-created findings. Whitemore and colleagues (2001) delineated primary and secondary validity criteria spanning multiple lenses from postmodernism to pragmatism. These examples retain structured evaluation criteria while maneuvering debates over problematized terms. Other scholars invoke more paradigm-specific reorientations that grapple directly with social justice orientations (Koro-Ljungberg et al., 2009). Thus, expanded conceptualizations variously prioritize methodological rigor, understanding lived complexities, accurately conveying participant perspectives, raising critical consciousness of power dynamics, and catalyzing transformative social change (Lather, 1991).

These developments signal extensive theoretical evolution in how qualitative researchers conceptualize, evaluate, and demonstrate validity across diverse aims and worldviews (Lincoln, 1995; Saldaña, 2003). The resultant plurality of lenses stresses the need to articulate aligned philosophical assumptions, standards of quality, and procedural approaches when undertaking qualitative studies in context-specific disciplines (Holliday, 2016).

Critiquing positivist applicability, scholars highlight the contextual, subjective qualities of language and need for new validity frameworks attuned to applied linguistics fields (Block et al., 2012). The co-constructed, meaning-making focus within interpretivist paradigms supports stronger alignment with applied linguistics inquiry, congruent with the contextualized, interactive ethnography widely undertaken in these domains (Canagarajah, 2006; Pennycook, 2010). Moreover, critical and transformative emphases hold relevance regarding centering ethical considerations such as researcher reflexivity, representation, and counteracting the marginalization of communities under study (Kubanyiova, 2008).

By embracing expanded conceptual lenses, applied linguistics and language education researchers can nurture pluralistic, trustworthy investigations aligned with ethical priorities (Holliday, 2016). Namely, grappling with positionality, member-checking, and deliberative attention to representation and reciprocity can enhance ethical qualitative practice (Canagarajah, 2006; Saldaña, 2003). This suggests conceptual plurality, alternative vocabularies, and socially conscious procedural adaptations better resonate with contemporary applied linguistic perspectives (Cho & Trent, 2006; Lincoln, 1995; Whitemore et al., 2001). Researchers adopting contemporary lenses can fruitfully shape investigations to realize rigorous, equitable, and justice-oriented qualitative practice.

NAVIGATING VALIDITY CONSIDERATIONS FOR LANGUAGE-RELATED RESEARCH

This section analyzes the myriad validity considerations that applied linguistics and language education researchers must grapple with due to the multifaceted nature of language itself as well as the distinctive context and aims of language-focused inquiry. Core issues include contending with the inherent intricacy of language phenomena, situatedness of language research, and special characteristics that set this interdisciplinary field apart when it comes to upholding research validity.

The Intricacy of Language Phenomena

A central validity issue stems from the intricate, multidimensional nature of language itself (Kramersch, 2006). Language learning, teaching, use, policy, and other phenomena involve complex interplay between diverse factors - linguistic, psychological, sociocultural, political, historical (Block et al., 2012). Researchers must account for this intricacy and avoid narrow interpretations. As Norton (2013) elucidates, language is not just an abstract system but also a social practice through which identities and power relations are constructed and negotiated. Careful attention to the intersections between the individual, interactional and societal realms is essential for valid research.

The Mediating Role of Context

Applied linguistics research must grapple with the mediating role of context in shaping language phenomena (Mcnamara, 2001). Language practices including learning, socialization, and policy implementation are situated within broader discourses, local particularities, institutional dynamics and sociohistorical conditions. The specifics of context mediate language phenomena in intricate, unpredictable ways. Validity requires recognizing this contextual embeddedness and avoiding decontextualized analysis. Ethnographic, longitudinal approaches can provide deeper insight into contextual factors and dynamics.

Distinctive Dimensions of Language Research

Several distinctive features set language research apart from other domains and pose specific validity implications:

Centering Diverse Language Users' Perspectives

Unlike fields where research is conducted on passive subjects, language research deals with active, creative, meaning-making agents who interpret experiences and (re)construct meanings through dynamic language practices (Duff, 2008; Kumaravadivelu, 2006). Language learners, teachers, and other stakeholders play a crucial role in shaping language-related experiences and outcomes. Validity in this context requires ensuring their voices and perspectives are accurately represented and that their interpretations are given due consideration. Strategies such as member checking, long-term engagement, and critical discourse analysis guard against misrepresentation.

Member checking involves sharing interview transcripts, observations, or preliminary findings with participants to verify the accuracy and completeness of the data (DeCino & Waalkes, 2019). Long-term engagement in the research setting allows researchers to continuously check emerging interpretations through ongoing informal interactions with participants (Lincoln & Guba, 1985). Critical discourse analysis examines language use and texts in relation to power structures, helping identify any misrepresentations that may arise from researchers' own perspectives or sociocultural positioning (Fairclough, 2010).

By employing these strategies- member checking to verify data, long-term engagement to check interpretations, and critical discourse analysis to uncover power influences- researchers can better ensure language users' perspectives are authentically represented and misrepresentations are avoided. This strengthens the validity of findings.

Navigating Multilingual, Multicultural Contexts

Language-related research often involves multilingual and multicultural contexts (Hornberger & McKay, 2010). The diversity of languages, cultures, and educational settings adds complexity to validity considerations. Researchers must be attentive to the cultural and linguistic nuances that may impact participants' understandings and interpretations, ensuring that validity is not compromised by ethnocentric or monocultural perspectives. Developing intercultural literacy, reflexivity regarding power issues in knowledge construction, and participatory action research can strengthen validity.

For example, developing intercultural literacy involves gaining awareness of one's own cultural values and assumptions to avoid misinterpreting participants' perspectives due to cultural biases (Wang et al., 2021). Reflexivity regarding power issues may entail critically examining how sociopolitical hierarchies within multilingual communities shape knowledge production and participant responses (Khan et al., 2023). Participatory action research, where community members collaborate with researchers as co-investigators, can surface cultural nuances and local understandings that enhance the validity of findings (Cornish et al., 2023).

By employing strategies that demonstrate attentiveness to cultural and linguistic diversity, researchers are better equipped to authentically represent participants' meanings and experiences across varied contexts. This strengthens the validity of research in multilingual and multicultural settings within applied linguistics and language education.

Abundance of Methodological Approaches

Language research features various quantitative, qualitative and mixed methods approaches from disciplines like linguistics, anthropology, psychology and education (Faez et al., 2022). Researchers must consider their research questions, context and goals to select suitable approaches aligned with their inquiry. For example, ethnography explores sociocultural dimensions of language use, while surveys gather self-reported data efficiently.

When selecting methods, researchers should acknowledge limitations and validity threats. Interviews involve reactivity and recall bias, while observations may be impacted by the observer's presence (Zohrabi, 2013). To mitigate threats, researchers can triangulate data sources and methods by supplementing interviews with document analysis or having multiple researchers code data (Nimehchisalem, 2018).

Researchers must also consider how methods align with theoretical frameworks and paradigms. Positivist approaches require different validity criteria than interpretivist or critical paradigms. Methods should be congruent with philosophical stances, acknowledging inconsistencies that may impact validity. With careful consideration, researchers can select suitable approaches and address validity threats.

Illustrative Examples of Applied Linguistics Validity Threats

To demonstrate the range of validity issues in applied linguistics research, several example studies are presented.

Comparative Study of Language Teaching Methods

In studies investigating the effectiveness of different language teaching methods, such as Milon et al. (2023), there are multiple validity concerns. Data sources may be subjective, relying heavily on surveys, interviews, or classroom observations that reflect individual perceptions. Linking observed classroom behaviors or reported outcomes specifically to the teaching methods is problematic due to potential confounding variables. The act of observing a class or conducting interviews can inadvertently influence participant behaviors. Student assessments and evaluative judgments are also prone to subjectivity and bias. Comparability of contexts between experimental conditions is often limited as well. Comprehensive data triangulation drawing upon varied sources, triangulating investigators, and accounting rigorously for contextual information could enhance validity for this type of study.

Interviews Exploring Multilingual Graduate Writers' Experiences

For qualitative interview studies on language learner experiences, such as Mahfoodh and Pandian (2011), additional validity issues arise. Cultural gaps between researchers and participants can inhibit clear communication in interviews. Unequal power dynamics may also lead participants to avoid full disclosure or to provide filtered responses they perceive as desirable. In representing qualitative data, particularly translating interviews, meanings may be unintentionally altered or lost. Participants' diverse linguistic backgrounds must be appropriately accounted for. Institutional, societal and cultural influences also shape reported experiences in complex ways. Strategies to augment validity include member checking of interview interpretations with participants, positioning the researcher's role transparently within the study, and applying critical discourse analysis to interview texts considering contextual power structures impacting the discourse.

These examples demonstrate the importance of addressing validity concerns in applied linguistics and language education research. By acknowledging the specific challenges and characteristics of language-related research, researchers can employ appropriate strategies to enhance the validity of their findings and ensure that the research contributes meaningfully to the field.

In conclusion, applied linguistics and language education research present unique validity challenges due to the complexity and variability of language-related phenomena. The characteristics of language-related research, such as the active participation of language users and the multicultural contexts, further impact validity considerations. Through examples and case studies, researchers can gain insights into the practical application of validity strategies, ensuring that their research accurately represents the intricacies of language learning, teaching, and use.

TOWARDS CONTEXTUALLY RELEVANT CONCEPTUALIZATIONS OF VALIDITY

This section provides an overview of two prominent approaches to validity in qualitative research: transactional validity and transformational validity. It critiques these existing approaches, highlighting their limitations within the context of applied linguistics and language education research. Additionally, alternative perspectives are proposed to enrich conceptualizations of validity for research in these fields.

Transactional Validity: The Need for Contextual Depth in Language Research

Transactional validity centers on verifying research findings through strategies aimed at credibility, trustworthiness, and transparency of process (Cho & Trent, 2006; Denzin & Lincoln, 2018). Frequently employed transactional strategies include triangulation across data sources, member checking with participants, thick description of phenomena, and prolonged engagement in research settings (Daniel et al., 2024). These techniques intend to substantiate that findings accurately reflect participants' realities.

However, applied linguistics and language education research often excavates complex social, cultural, and political dimensions of language. Thus, some scholars argue transactional strategies in themselves may be insufficient for capturing multifaceted linguistic phenomena (Kubanyiova, 2008). Further critique suggests this approach prioritizes procedural validity over meaningful engagement with context (Maxwell, 1992). The field requires validity notions that look beyond accuracy to contextual intricacy.

Transformational Validity: Addressing Social Inequities Through Centering Lived Experiences

Alternatively, transformational validity situates research as a catalyst for reform by confronting social inequities through participants' lived experiences (Denzin & Lincoln, 2018). Accordingly, the transactional focus on methodological accuracy is replaced with dialectical critique of structural oppression. However, this radical approach has been accused of sacrificing methodological rigor in its zeal for emancipation (Lather, 1993). Further, the framework requires developing localized constructs of social justice in applied linguistics and language education.

Reconceptualizing Validity for Applied Linguistics and Language Education

Existing frameworks may not sufficiently address the aims of research across sociopolitical, cultural, and educational contexts of language. Some applied linguistics scholars have called for pluralistic validity notions attuned to ethical and empowering inquiry (Kubanyiova, 2008). Two alternative perspectives warrant exploration.

First, contextual validity stresses the importance of understanding research findings within the sociocultural contexts of participants (Norton, 2013). This requires acknowledging the fluid and contested nature of language in relation to learner/teacher identities, ideologies, and power structures. Validity hinges on coherent interpretation within localized settings, participants' frames of reference, and broader social dynamics that shape language instruction and use.

Additionally, the emergent perspective of catalytic validity seeks authentic collaboration with marginalized communities to transform conditions of inequality (Lather, 1991). This necessitates that researchers interrogate their own assumptions and privileges to conduct ethical, empowering inquiry. Catalytic validity emphasizes lasting impact over discrete research outputs or publications.

By integrating expanded notions of context, collaboration, and social change, applied linguistics and language education researchers can reconceive validity in alignment with complex social meanings and transformative goals underpinning their vital work.

In conclusion, transactional and transformational validity approaches have made significant contributions to qualitative research. However, their limitations within the context of applied linguistics and language education necessitate the exploration of alternative frameworks or perspectives on validity.

Ensuring Credibility and Trustworthiness in Qualitative Inquiries

Contextual validity and emancipatory validity offer promising avenues for researchers to address the unique challenges and goals of language-related research, ensuring that validity considerations are relevant, meaningful, and impactful in these fields.

STRATEGIES FOR ENHANCING VALIDITY IN QUALITATIVE LANGUAGE RESEARCH

This section explores methodological strategies aimed at addressing validity concerns in qualitative research within the field of applied linguistics and language education. Specifically, it discusses the application of triangulation, member checking, peer debriefing, and other techniques to enhance validity. Additionally, the importance of incorporating reflexivity and researcher positionality in ensuring validity is emphasized.

Triangulation

Triangulation is a widely recognized methodological strategy used to enhance validity in qualitative research (Denzin & Lincoln, 2018). It involves the use of multiple data sources, methods, or researchers to corroborate findings and interpretations. In the context of language-related research, triangulation can be applied in various ways.

First, researchers can employ data triangulation by collecting and analyzing data from different sources, such as interviews, observations, and documents. This approach allows for a comprehensive and multifaceted understanding of language-related phenomena (Polkinghorne, 2005).

Second, methodological triangulation involves using different research methods, such as surveys, case studies, and discourse analysis, to shed light on different aspects of language-related research questions. This helps to ensure that findings are not solely dependent on a single method and that different perspectives are considered (Ajemba & Arene, 2022).

Third, researcher triangulation involves the collaboration of multiple researchers in the data collection, analysis, and interpretation processes. This can help reduce individual biases and increase the reliability and validity of the findings (Thurmond, 2001).

Member Checking, Peer Debriefing, and Other Techniques

Member checking is a technique employed to enhance validity by involving participants in the research process (Stahl & King, 2020). It involves sharing research findings or interpretations with participants and seeking their feedback or confirmation. In language-related research, member checking can be particularly valuable as it allows participants to verify the accuracy of their portrayed experiences and perspectives (Candela, 2019; Creswell & Miller, 2000).

Peer debriefing is another technique that enhances validity by involving external researchers or colleagues in the research process. These individuals provide critical feedback, challenge interpretations, and offer alternative perspectives. Peer debriefing promotes a more rigorous and comprehensive analysis, ensuring that potential biases or oversights are addressed (Creswell & Miller, 2000).

Additionally, techniques such as audit trails, which involve documenting the research process and decisions made, and negative case analysis, which examines instances that contradict the emerging patterns or themes, can further enhance validity in qualitative research (Carcary, 2009).

Incorporating Reflexivity and Researcher Positionality

Reflexivity and researcher positionality play crucial roles in ensuring validity in qualitative research within applied linguistics and language education. Reflexivity involves the researcher's critical self-awareness regarding their values, biases, and assumptions, and how these may influence the research process and interpretations (Denzin & Lincoln, 2018). Researchers should explicitly acknowledge their positionality and engage in ongoing reflection throughout the research process. By acknowledging their own subjectivity and potential biases, researchers can adopt a reflexive stance that is open to alternative interpretations and perspectives (Koro-Ljungberg et al., 2009). This reflexive approach enhances the validity of the research by promoting transparency, self-critique, and a more nuanced understanding of language-related phenomena.

Moreover, researchers should consider the power dynamics inherent in language-related research, including issues of language dominance, cultural privilege, and researcher-participant relationships (Hornberger & McKay, 2010). Adopting an ethical and equitable stance in research design, data collection, and analysis can help mitigate the potential influence of power differentials and contribute to the validity and integrity of the research.

In conclusion, enhancing validity in qualitative research in applied linguistics and language education requires the application of methodological strategies such as triangulation, member checking, and peer debriefing. These techniques promote a comprehensive understanding of language-related phenomena, involve participants and external perspectives, and ensure rigorous analysis. Furthermore, incorporating reflexivity and considering researcher positionality are crucial for addressing bias, acknowledging power dynamics, and upholding the validity of the research. By employing these strategies and perspectives, researchers can enhance the validity and credibility of their qualitative research in applied linguistics and language education.

ETHICAL CONSIDERATIONS AND VALIDITY IN LANGUAGE RESEARCH

This section delves into the relationship between ethics and validity in language research. It explores the ethical challenges that researchers encounter within the context of applied linguistics and language education and discusses how these challenges can impact the validity of research findings. Additionally, the section addresses the importance of balancing validity and ethical considerations in research design and data collection processes.

Relationship Between Ethics and Validity

Ethics and validity are intertwined in language research, as both concepts are pivotal in ensuring the quality and integrity of the research. Ethics refers to the moral principles and guidelines that govern the conduct of research, particularly in relation to the treatment of human participants (Moriña, 2021).

Ensuring Credibility and Trustworthiness in Qualitative Inquiries

Validity, on the other hand, pertains to the accuracy, soundness, and appropriateness of the research findings, interpretations, and conclusions (Mandasini, 2022).

Ethical research practices are essential for upholding the rights and well-being of participants, ensuring informed consent, protecting confidentiality, and minimizing harm (Denzin & Lincoln, 2018). Validity, in turn, ensures that the research is reliable, credible, and representative of the phenomena under investigation. Thus, ethical considerations and validity are interconnected, as unethical practices can compromise the trustworthiness and validity of the research findings (Hesse-Biber & Leavy, 2011).

Ethical Challenges and Their Impact on Validity

In applied linguistics and language education research, several ethical challenges arise, which can potentially impact the validity of the research findings. These challenges include issues such as power imbalances, linguistic imperialism, cultural appropriation, and the potential for harm to participants (Hornberger & McKay, 2010). These challenges can arise due to the privileged position of researchers, the sensitive nature of language-related topics, and the potential misrepresentation or exploitation of marginalized communities.

For instance, power imbalances between researchers and participants can influence the data collection process, potentially leading to biased or incomplete data (Block et al., 2012). In cases of linguistic imperialism, where dominant languages and cultures overshadow or suppress marginalized languages and cultures, researchers must be vigilant in avoiding further harm or marginalization of participants. Failure to address these ethical challenges can compromise the validity of the research findings and undermine the ethical integrity of the study.

Balancing Validity and Ethical Considerations

Balancing validity and ethical considerations in research design and data collection is crucial to ensure that the research is both rigorous and ethical. Researchers must carefully consider the potential ethical implications of their research questions, methods, and participant selection. To strike a balance, researchers can employ a reflexive and iterative approach that involves ongoing reflection on ethical challenges and their potential impact on validity (Koro-Ljungberg et al., 2009). This includes critically examining the power dynamics, cultural contexts, and potential biases that may influence the research process.

Furthermore, researchers should prioritize obtaining informed consent from participants, ensuring their privacy and anonymity, and considering the potential risks and benefits associated with participation (Moriña, 2021). Engaging in transparent and ethical practices such as debriefing, member checking, and peer review can enhance the validity and ethical integrity of the research (Creswell & Miller, 2000).

It is essential for researchers to engage in ethical dilemmas openly, seeking guidance from relevant ethical review boards or committees, and consulting with colleagues and participants (Hesse-Biber & Leavy, 2011). By doing so, researchers can navigate the complexities of balancing validity and ethical considerations, contributing to a more robust and ethically sound research process.

In conclusion, ethics and validity are intertwined in language research. Ethical challenges, such as power imbalances, linguistic imperialism, and potential harm to participants, can impact the validity of research findings. Balancing validity and ethical considerations requires a reflexive and iterative approach that involves ongoing reflection, transparent practices, and consultation with relevant stakeholders. By upholding ethical principles and ensuring the validity of research, researchers in applied linguistics and

language education can contribute to the advancement of knowledge while promoting the well-being and rights of participants.

CONCLUSION

This chapter has explored various methodological strategies and ethical considerations aimed at enhancing validity in qualitative research within the field of applied linguistics and language education. Key points discussed include the application of triangulation, member checking, and peer debriefing to address validity concerns. Additionally, the importance of incorporating reflexivity and researcher positionality in ensuring validity has been emphasized.

To summarize, methodological strategies such as triangulation, involving multiple data sources, methods, or researchers, can enhance the validity of qualitative research (Denzin & Lincoln, 2018). Member checking and peer debriefing provide opportunities for participants and external perspectives to validate and challenge research findings, respectively (Creswell & Miller, 2000). Moreover, techniques such as audit trails and negative case analysis contribute to the rigor and validity of the research process (Carcary, 2009).

Incorporating reflexivity and considering researcher positionality are vital for addressing bias and power dynamics in language research (Koro-Ljungberg et al., 2009). By critically reflecting on their values, assumptions, and potential biases, researchers can adopt a reflexive stance that enhances the validity of their findings (Denzin & Lincoln, 2018). Furthermore, researchers should be mindful of the ethical challenges inherent in applied linguistics and language education research and strive to balance validity and ethical considerations (Hornberger & McKay, 2010).

In light of these discussions, several recommendations can be made for future research and practice in ensuring validity in qualitative research in applied linguistics and language education.

Firstly, researchers should continue to explore and employ innovative methodological strategies to enhance the validity of their research. This may involve adopting a combination of data triangulation, methodological triangulation, and researcher triangulation to provide a comprehensive understanding of language-related phenomena (Ajemba & Arene, 2022).

Secondly, researchers should further develop and refine techniques such as member checking, peer debriefing, and negative case analysis to strengthen the validity of their findings (Creswell & Miller, 2000). By actively involving participants and external perspectives, researchers can ensure that their interpretations are accurate and representative of the experiences and perspectives of those involved.

Thirdly, researchers should consistently engage in reflexivity and critically examine their own positionality throughout the research process (Denzin & Lincoln, 2018). By acknowledging their subjectivity and potential biases, researchers can enhance the validity and credibility of their research (Koro-Ljungberg et al., 2009).

Lastly, it is recommended that researchers prioritize ethical considerations and seek guidance from relevant ethical review boards or committees (Hesse-Biber & Leavy, 2011; Moriña, 2021). By upholding ethical principles and ensuring the well-being and rights of participants, researchers can conduct research that is both valid and ethically sound.

In conclusion, ensuring validity in qualitative research in applied linguistics and language education requires a combination of methodological strategies, reflexivity, and ethical considerations. By employing these approaches, researchers can contribute to the advancement of knowledge in the field while

Ensuring Credibility and Trustworthiness in Qualitative Inquiries

maintaining the integrity and credibility of their research. Future research and practice should continue to build upon these foundations to further enhance the validity of qualitative research in applied linguistics and language education.

ACKNOWLEDGMENT

Funding for this project was provided by the University of Economics and Law, Ho Chi Minh City, Vietnam. I would like to express my sincere gratitude to the University for their support in making this research possible.

REFERENCES

- Ajemba, M. N., & Arene, E. C. (2022). Possible advantages that may be enhanced with the adoption of research triangulation or mixed methodology. *Magna Scientia Advanced Research and Reviews*, 6(1), 58–61. doi:10.30574/msarr.2022.6.1.0066
- Beebe, L. M., & Giles, H. (1984). Speech-accommodation theories: A discussion in terms of second-language acquisition. *International Journal of the Sociology of Language*, 1984(46), 5–32. doi:10.1515/ijsl.1984.46.5
- Block, D., Gray, J., & Holborow, M. (2012). *Neoliberalism and applied linguistics*. Routledge., doi:10.4324/9780203128121
- Canagarajah, A. S. (2006). The place of world Englishes in composition: Pluralization continued. *College Composition and Communication*, 57(4), 586–619. <https://www.jstor.org/stable/20456910>. doi:10.58680/cc20065061
- Candela, A. G. (2019). Exploring the function of member checking. *The Qualitative Report*, 24(3), 619–628. doi:10.46743/2160-3715/2019.3726
- Carcary, M. (2009). The research audit trial- enhancing trustworthiness in qualitative inquiry. *Electronic Journal of Business Research Methods*, 7(1), 11–24. doi:10.34190/JBRM.18.2.008
- Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative Research*, 6(3), 319–340. doi:10.1177/1468794106065006
- Cian, H. (2021). Sashaying across party lines: Evidence of and arguments for the use of validity evidence in qualitative education research. *Review of Research in Education*, 45(1), 253–290. doi:10.3102/0091732X20985079
- Cornish, F., Breton, N., Moreno-Tabarez, U., Delgado, J., Rua, M., Aikins, A. G., & Hodgetts, D. (2023). Participatory action research. *Nature Reviews. Methods Primers*, 3(34), 1–14. doi:10.1038/s43586-023-00214-1

- Costa, P. I. D., Randez, R. A., Cinaglia, C., & Montgomery, D. P. (2022). Qualitative ISLA research methodologies and methods. In L. Gurzynski-Weiss & Y. Kim (Eds.), *Research methods in applied linguistics 3: Instructed second language acquisition research methods* (pp. 55–78). John Benjamins Publishing Company. doi:10.1075/rmal.3.03dec
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, 39(3), 124–130. doi:10.1207/s15430421tip3903_2
- Daniel, B. K., Asil, M., & Carr, S. (2024). Psychometric properties of the TACT framework- determining rigor in qualitative research. *Frontiers in Research Metrics and Analytics*, 8(1276446), 1–10. doi:10.3389/frma.2023.1276446 PMID:38259871
- Davies, D., & Dodd, J. (2002). Qualitative research and the question of rigor. *Qualitative Health Research*, 12(2), 279–289. doi:10.1177/104973230201200211 PMID:11837376
- DeCino, D. A., & Waalkes, P. L. (2019). Aligning epistemology with member checks. *International Journal of Research & Method in Education*, 42(4), 374–384. doi:10.1080/1743727X.2018.1492535
- Denzin, N. K., & Lincoln, Y. S. (2018). *The Sage handbook of qualitative research*. Sage.
- Duff, P. A. (2008). *Case study research in applied linguistics*. Lawrence Erlbaum Associates.
- Faez, F., Martini, J., & Pavia, N. (2022). Research methods in applied linguistics and language education: Current considerations, recent innovations, and future directions. *ELT Journal*, 76(2), 276–296. doi:10.1093/elt/ccab091
- Fairclough, N. (2010). *Critical discourse analysis: the critical study of language* (2nd ed.). Routledge., doi:10.4324/9781315834368
- Genç, C. Y. (2023). Exploring the multifaceted dimensions of second language acquisition: Universal influences, individual factors, and sociocultural context. *International Journal of Formal Education*, 2(12), 256–269.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The handbook of qualitative research* (pp. 105–117). Sage.
- Guba, E. G., & Lincoln, Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 191–215). Sage.
- Hesse-Biber, S. N., & Leavy, P. (2011). *The practice of qualitative research*. Sage (Atlanta, Ga.).
- Holliday, A. (2016). *Doing & writing qualitative research*. Sage Publications., doi:10.4135/9781446287958
- Hornberger, N. H., & McKay, S. L. (2010). *Sociolinguistics and Language Education*. Multilingual Matters. doi:10.21832/9781847692849
- Jixing, L., & Shiyi, Z. (2019). Trends of qualitative research in applied linguistics since the new millennium. *Canadian Social Science*, 5(7), 11–14. doi:10.3968/11200

Ensuring Credibility and Trustworthiness in Qualitative Inquiries

- Khan, I. U., Ali, A., & Bibi, S. A. (2023). Monoglot ideologies in multilingual ecologies: Case study of language-in-education policies in India and Indonesia. *UMT Education Review*, 6(1), 63–80. doi:10.32350/10.32350/uer.61.04
- Kirk, J., & Miller, M. L. (1986). *Reliability and validity in qualitative research*. SAGE Publications., doi:10.4135/9781412985659
- Koro-Ljungberg, M., Yendol-Hoppey, D., Smith, J. J., & Hayes, S. B. (2009). (E)pistemological awareness, instantiation of methods, and uninformed methodological ambiguity in qualitative research projects. *Educational Researcher*, 38(9), 687–699. doi:10.3102/0013189X09351980
- Kramsch, C. (2006). From communicative competence to symbolic competence. *Modern Language Journal*, 90(2), 249–252. doi:10.1111/j.1540-4781.2006.00395_3.x
- Kubanyiova, M. (2008). Rethinking research ethics in contemporary applied linguistics: The tension between macroethical and microethical perspectives in situated research. *Modern Language Journal*, 92(4), 503–518. doi:10.1111/j.1540-4781.2008.00784.x
- Kumaravadivelu, B. (2006). *Understanding language teaching from method to postmethod*. Lawrence Erlbaum Associates. doi:10.4324/9781410615725
- Lather, P. (1991). *Getting smart: feminist research and pedagogy within/in the postmodern*. Routledge. doi:10.4324/9780203451311
- Lather, P. (1993). Fertile obsession: Validity after poststructuralism. *The Sociological Quarterly*, 34(4), 673–693. doi:10.1111/j.1533-8525.1993.tb00112.x
- Lincoln, Y. S. (1995). Emerging criteria for quality in qualitative and interpretive research. *Qualitative Inquiry*, 1(3), 275–289. doi:10.1177/107780049500100301
- Lincoln, Y. S., & Guba, E. G. (Eds.). (1985). *Naturalistic Inquiry*. Sage. doi:10.1016/0147-1767(85)90062-8
- Mahfoodh, O. H. A., & Pandian, A. (2011). A qualitative case study of EFL students' affective reactions to and perceptions of their teachers' written feedback. *English Language Teaching*, 4(3), 14–25. doi:10.5539/elt.v4n3p14
- Mandasani, A. A. (2022). Research methodology as a calibrator for the validity of scientific research results. *Kontigensi: Scientific Journal of Management*, 11(1), 439–447. doi:10.56457/jimk.v10i2.389
- Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Educational Review*, 62(3), 279–300. doi:10.17763/haer.62.3.8323320856251826
- Mcnamara, T. (2001). Language assessment as social practice: Challenges for research. *Language Testing*, 18(4), 333–349. doi:10.1177/026553220101800402
- Miksza, P., Shaw, J. T., Richerme, L. K., Hash, P. M., Hodges, D. A., & Parker, E. C. (2023). Considerations of quality in qualitative research. In P. Miksza, J. T. Shaw, L. K. Richerme, P. M. Hash, & D. A. Hodges (Eds.), *Music education research: an introduction* (pp. 217–240). Academic. doi:10.1093/oso/9780197639757.003.0011

- Milon, M. R. K., Ishtiaq, M., Ali, T. M., & Imam, M. S. (2023). Unlocking fluency: Task-based language teaching (TBLT) in tertiary speaking classes - insights from Bangladeshi teachers and students. *International Center for Research and Resource Development*, 4(4), 218–230. doi:10.53272/icrrd.v4i4.11
- Moriña, A. (2021). When people matter: The ethics of qualitative research in the health and social sciences. *Health & Social Care in the Community*, 29(5), 1559–1565. doi:10.1111/hsc.13221 PMID:33170531
- Nimehchisalem, V. (2018). Exploring research methods in language learning-teaching studies. *Advances in Language and Literary Studies*, 9(6), 27–33. doi:10.7575/aiac.all.v.9n.6p.27
- Norton, B. (2013). *Identity and language learning: extending the conversation*. Multilingual Matters. doi:10.21832/9781783090563
- Pennycook, A. (2010). *Language as a local practice*. Routledge., doi:10.4324/9780203846223
- Polkinghorne, D. E. (2005). Language and meaning: Data collection in qualitative research. *Journal of Counseling Psychology*, 52(2), 137–145. doi:10.1037/0022-0167.52.2.137
- Richardson, L., & Pierre, E. A. S. (2005). Writing: a method of inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 959–978). Sage.
- Saldaña, J. (2003). *Longitudinal qualitative research: analyzing change through time*. AltaMira Press.
- Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding and using trustworthiness in qualitative research. *Journal of Developmental Education*, 44(1), 26–28.
- Thurmond, V. A. (2001). The point of triangulation. *Journal of Nursing Scholarship*, 33(3), 253–258. doi:10.1111/j.1547-5069.2001.00253.x PMID:11552552
- Wang, X., Jiang, L., Fang, F., & Elyas, T. (2021). Toward critical intercultural literacy enhancement of university students in China from the perspective of English as a lingua franca. *SAGE Open*, 11(2), 1–12. doi:10.1177/21582440211027544
- Whittemore, R., Chase, S. K., & Mandle, C. L. (2001). Validity in qualitative research. *Qualitative Health Research*, 11(4), 522–537. doi:10.1177/104973201129119299 PMID:11521609
- Yahya, U., Arif, M., & Awan, S. (2023). A conceptual review of qualitative research inquiry in applied linguistics. *Pakistan Languages and Humanities Review*, 7(2), 620–633. doi:10.47205/plhr.2023(7-II)55
- Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and Practice in Language Studies*, 3(2), 254–262. doi:10.4304/tpls.3.2.254-262

ADDITIONAL READING

- Albert, A., & Csizér, K. (2022). Investigating individual differences with qualitative research methods: Results of a meta-analysis of leading applied linguistics journals. *Studies in Second Language Learning and Teaching*, 12(2), 303–335. doi:10.14746/ssllt.2022.12.2.6

Ensuring Credibility and Trustworthiness in Qualitative Inquiries

Benson, P., Chik, A., Gao, X., Huang, J., & Wang, W. (2009). Qualitative research in language teaching and learning journals, 1997-2006. *Modern Language Journal*, 93(1), 79–90. doi:10.1111/j.1540-4781.2009.00829.x

Dooley, K. (2020). Qualitative research on language education and teaching: Trends and opportunities, with an illustrative analysis of two Australian examples. *Journal of Qualitative Inquiry*, 6(1), 107–134. doi:10.30940/JQI.2020.6.1.107

Meihami, H. (2020). Research methodology and orientation of papers published from 1980 to 2019 in applied linguistics journals. [ILT]. *Issues in Language Teaching*, 9(2), 59–88. doi:10.22054/ilt.2020.53506.518

Mirhosseini, S.-A. (2017). Introduction: qualitative research in language and literacy education. In S.-A. Mirhosseini (Ed.), *Reflections on qualitative research in language and literacy education* (Vol. 29, pp. 1–13). Springer., doi:10.1007/978-3-319-49140-0_1

KEY TERMS AND DEFINITIONS

Catalytic validity: Seeks authentic collaboration with marginalized communities to transform conditions of inequality through ethical, empowering inquiry.

Contextual validity: Stresses the importance of understanding research findings through the socio-cultural contexts and frames of reference of participants.

Reflexivity: A researcher’s critical self-awareness regarding their own values, biases, assumptions and how these may influence interpretations.

Transactional validity: Verifying research findings through strategies such as triangulation and member checking that aim for credibility, trustworthiness, and transparency.

Transformational validity: Situating research as a catalyst to confront social inequities through participants’ experiences rather than focusing narrowly on methodological accuracy.

Validity: The accuracy and credibility of research findings and interpretations. It ensures analyses are grounded in the data and represent participants’ realities.

Chapter 7

Reliability and Validity in Quantitative Research

Beatrice Bunmi Adeyemi

 <https://orcid.org/0009-0007-1157-085X>

Olusegun Agagu University of Science and Technology, Nigeria

ABSTRACT

This chapter is specifically designed for undergraduate and graduate students of applied linguistics, language education, language teachers, as well as applied linguists. It offers readers a thorough exploration into the intricacies of maintaining credibility and precision in their quantitative research work. The extensive content delves beyond superficial comprehension by presenting an intricate grasp on the fundamental principles required to establish reliability and validity. The chapter will guide readers through an exploration of the fundamental aspects of quantitative research, emphasizing the importance of reliability and validity evaluation. By delving into key concepts and methods for assessing measurement accuracy, consistency, and dependability, readers will acquire a deep understanding that enhances their overall research quality. Upon completion of this chapter, individuals will possess vital comprehension on reliability and validity. Moreover, they shall gain the ability to uphold their research's meticulousness and credibility in quantitative studies.

INTRODUCTION

Quantitative research holds a pivotal position in furnishing objective and empirically substantiated evidence within the domain of Applied Linguistics and Language Education. It encompasses the gathering and examination of numerical data to systematically investigate relationships, patterns, and trends. The dependability and authenticity of quantitative research are paramount in establishing the credibility and reliability of the discoveries and inferences derived from such investigations. Consequently, the objective of this chapter is to bridge this knowledge gap by offering a comprehensive overview of reliability and validity in the context of quantitative research, specifically tailored to the requirements of undergraduate and graduate students of Applied Linguistics and Language Education, language teachers, and applied

DOI: 10.4018/979-8-3693-2603-9.ch007

Reliability and Validity in Quantitative Research

linguists. The study has been divided into different sections such as measures of validity, reliability, and their application in research.

Regarding quantitative research, reliability pertains to the steadiness, perseverance, and trustworthiness of data-gathering devices or techniques. It constitutes a crucial factor in determining the credibility of research by ensuring that outcomes yielded are consistent and reliable. A deep understanding of reliability and validity is essential for researchers in Applied Linguistics and Language Education as they play a pivotal role in establishing the authenticity and dependability of quantitative research. Nonetheless, studies suggest that students and novice researchers encounter difficulties comprehending these principles fully, resulting in ineffective implementation during their research pursuits (Johnson & Christensen, 2019). In addition to this, when conducting quantitative research, the tools used to take measurements must show reliability. Reliability pertains to how consistent and unchanging a measure is over time, regardless of who uses it or which sample is being studied.

It's critical to ensure reliable measures to remove any impact from random errors on results and facilitate replication or extension of findings across diverse populations (DeVellis, 2016). According to Cooper and Schindler (2020), reliability pertains to the degree to which an instrument or measurement yields consistent outcomes when applied within similar circumstances. According to Hair, Black, Babin, and Anderson (2021), reliability refers to the extent of accuracy, consistency, and trustworthy outcomes produced by a measuring tool. According to Field (2013), reliability pertains to the degree of absence of unpredictable inaccuracies in measurements and guarantees uniform, repeatable outcomes. Reliability refers to the stability and reliability of a measurement, implying that it generates reliable outcomes consistently over time or in various situations (Polit & Beck, 2021). To this end, reliability measures are discussed as the study unfolds.

RELIABILITY MEASURES

Test-Retest Reliability

The concept of test-retest reliability pertains to the uniformity of a measurement or tool when it is given twice to identical people on different occasions. This technique is generally utilized in research investigations to determine how unchanging a construct stays over time. The fundamental postulate suggests that there should be no variation between the two assessment periods regarding what's being assessed. Researchers usually evaluate the test-retest reliability by choosing a group of individuals and giving them the same tool or evaluation twice, separated by an appropriate gap in time. Statistical techniques are then employed to compare both sets of scores and determine how closely they match up or correlate with each other.

To illustrate, let's consider a research study that examines the dependability of an anxiety scale. The investigators would choose a sample of individuals and give them the same anxiety questionnaire on two different occasions separated by two weeks, for instance. They would then evaluate both sets of results using appropriate statistical tools such as correlation coefficient. A strong similarity between these scores proves excellent test-retest reliability implying that this measurement tool reliably measures levels of apprehension over time. In market research, a case in point would be when a company conducts consumer satisfaction surveys by requesting participants to rate their contentment with products or services. To assess the dependability of said survey, the organization could administer it twice at different intervals

(e.g., one month apart) to an identical subgroup. By assessing responses and computing reliability coefficients, businesses can establish if results from such investigations remain consistent over time.

Careful consideration should be given to the timing between testing and retesting. If the interval is too brief, it may result in participants recalling their prior responses, thereby creating an artificial inflation of reliability. Alternatively, if the time span is excessively prolonged, modifications in the measured construct could compromise its dependability.

Inter-Rater Reliability

Inter-rater reliability is referred to as the harmony or concurrence amongst several examiners or observers in evaluating and making decisions. This gauge is typically utilized in research cases that involve subjective evaluations, such as grading written assignments of students, appraising healthcare provisions' superiority, and monitoring conduct within psychological experiments. Inter-rater reliability is checked by assessing the evaluations of multiple raters on identical datasets, observations, or performances without any influence from external factors. The ratings and judgments assigned are thereafter analyzed through statistical methods to ascertain how well they agree with one another.

If educational research aims to determine the inter-rater reliability of a grading rubric for student essays, multiple instructors or graders would assess individual sets using the rubric. Statistical measures like Cohen's kappa and intraclass correlation coefficients are used to compare ratings from each assessor and evaluate agreement levels. When high inter-rater reliability exists, it signals that the grading rubric generates consistent outcomes regardless of who evaluates them. To give another illustration, let's take into account research aimed at examining the inter-rater reliability in behavioral observations. Several observers might make independent evaluations and document whether certain behaviors exhibited by individuals during the study are present or not. By evaluating each observer's assessments, we can establish their degree of agreement to determine inter-rater reliability. This becomes particularly crucial in areas like psychology or animal behavior research where subjective interpretations play an important role in assessing behaviors.

The importance of inter-rater reliability lies in its ability to maintain the accuracy and uniformity of subjective measurements or evaluations. By minimizing potential biases and discrepancies between raters, this concept guarantees dependable results that can be applied universally. Achieving high inter-rater reliability requires emphasizing the importance of training and creating clear guidelines for observers or raters. Through consistent training, variation in interpretations can be minimized while improving overall agreement among raters.

Internal Consistency

The statistical metric of internal consistency is associated with the level of coherence or association among distinct components contained in a measuring device, such as a questionnaire or scale. This measure is particularly applicable for assessing multi-item instruments created to evaluate an explicit trait or characteristic. The evaluation of internal consistency in measurement instruments is often performed using Cronbach's alpha coefficient. This metric measures the consistent measurement of a single underlying construct by the instrument items. The resulting value range for this coefficient, from 0 to 1, signifies higher levels indicating stronger internal consistency.

Reliability and Validity in Quantitative Research

In different research contexts, internal consistency can be employed. For instance, when measuring attitudes towards climate change using a questionnaire with multiple items, one method is to evaluate the internal consistency of the survey. To accomplish this task, a researcher can administer it to participants and compute Cronbach's alpha score. A high value of Cronbach's alpha suggests that there is consistent measurement across all questions on attitudes about climate change in the survey. Multi-item scales are commonly used to evaluate personality traits. To determine extraversion, for example, a personality inventory may be utilized by researchers. Cronbach's alpha can then be applied to assess internal consistency and identify any disparities among the items in measuring this specific trait of interest accurately.

Academic self-efficacy can be evaluated by utilizing internal consistency analysis in educational research to gauge the reliability of a questionnaire designed for this purpose. The questionnaire may consist of multiple items that measure an individual's belief in their academic success, where researchers use Cronbach's alpha as a tool to assess how consistently these items measure academic self-efficacy. More so, a way researchers evaluate language learning strategies is through the use of multi-item scales in applied linguistics and language education. To determine their reliability, internal consistency measures like Cronbach's alpha are utilized to ensure that all items consistently measure language learning strategies as a construct. The examples demonstrate that a high Cronbach's alpha value, indicating strong internal consistency, suggests the items in the measurement tool consistently measure the same underlying construct. Hence, this signifies reliability and effective assessment of its intended attribute or construct.

To guarantee the consistency and trustworthiness of data collection methods in applied linguistics and language education research, reliability measures come into play. For instance, when researching second language acquisition studies, test-retest reliability may be utilized to measure the uniformity of language proficiency tests over time. In evaluations involving oral language proficiency by numerous raters, Inter-rater reliability is pivotal for ensuring a reliable assessment process consistently. Moreover, Cronbach's alpha- a measurement tool used with multi-item questionnaires evaluating multiple facets related to linguistic skills learning undergoes internal consistency checks beforehand. Implying that such directives ensure quality results are obtained during these assessments and practices continued throughout their applicability period within academic circles performing them.

VALIDITY IN QUANTITATIVE RESEARCH: TYPES AND MEASURES

Throughout this section, validity will be construed as the extent to which a research endeavor precisely gauges its designated factors. We probe into different varieties of validity like content, construct, and criterion-related validity. Alongside that, we analyze strategies aimed at bolstering soundness in both applied linguistics and language education investigations. Validity pertains to the extent of accuracy in measuring a specific construct or variable, evaluating whether measurements accurately represent their intended aim. Validity comprises various aspects such as content validity, criterion validity, construct validity, and external validity (Hair et al., 2019).

Professionals working in Applied Linguistics and Language Education must thoroughly understand the significance of reliability and validity, as these concepts are crucial to establishing trustworthiness and credibility in quantitative research. Nonetheless, the literature suggests that inexperienced researchers often encounter difficulty grasping these principles and implementing them effectively (Johnson & Christensen, 2019). There are different interpretations of validity. According to Kerlinger and Lee (2000), the concept of validity pertains to the extent that both evidence and theory corroborate the explanations

derived from test scores for intended applications. Validity is not an attribute of a test, but rather it hinges on how test results are interpreted.

The accuracy of a concept in measuring what it is intended to measure refers to its validity. This indicates how effectively an operational definition represents a construct (Trochim and Donnelly, 2008). More so, the term validity pertains to how much the evidence and theory support the interpretations of test scores, to their intended uses. This concept is considered a cohesive notion that assesses whether such interpretations are fitting, based on specific types of deductions or determinations (American Educational Research Association et al., 2014). Validity, as defined by Messick (1989), is a comprehensive assessment that measures the extent to which practical inferences and actions derived from test scores or other forms of evaluation are adequately supported by both empirical evidence and theoretical justification.

In quantitative research, the assurance of validity plays a crucial role in determining both the precision and reliability of measurement and results. To improve this aspect within applied linguistics and language education studies, we should examine various types of validity that exist along with methods for enhancing them. The different forms of validity are therefore presented below.

Content Validity

Measurement instrument development involves a critical element referred to as content validity, which guarantees that the examination or survey questions accurately reflect the essence of the construct being studied. The evaluation primarily concentrates on determining whether the measurement questionnaire genuinely encompasses and reflects all dimensions of what is being measured. Several strategies are used by researchers to attain content validity, which guarantees that the measurement instrument covers all pertinent features of the construct. To clarify the concept, below are a few detailed illustrations.

To evaluate the English language abilities of non-native speakers, researchers are designing a Language Proficiency Test. The first step towards establishing content validity is to conduct an extensive study of existing literature on Language proficiency and learning. By reviewing this research material, they can determine which vital language skills should be included in the test - namely reading comprehension, writing ability, listening aptitude, and speaking prowess. Following the identification of essential language skills, researchers would consult with professionals in the area of language education and evaluation to acquire expert judgment. Experts may consist of seasoned educators specializing in languages, developers creating assessments for such abilities, or linguists. The expert's role is to evaluate test items critically and offer their professional opinion regarding whether they adequately reflect all necessary linguistic competencies. The experts will assess if the reading portion comprises an appropriate combination of comprehension passages that cover diverse subjects and styles to gauge reading competency efficiently.

Additionally, they will evaluate whether various types of spoken responses such as delivering a presentation or taking part in a conversation are solicited through tasks featured in the speaking component. To enhance content validity, researchers may opt to perform pilot testing on a subset of the intended audience. The aim is to acquire opinions from test takers that will help appraise the accuracy, pertinence, and thoroughness of assessment items. Insights gained from participants in this pretest evaluation could reveal problematic or perplexing questions while highlighting areas requiring further refinement.

In the process of developing a language proficiency test, it is common for researchers to conduct a trial run with a small group of students who have varying linguistic backgrounds. The results are then analyzed to determine whether any issues exist with individual items within the exam such as item difficulty or relevance. This information helps refine and revise problematic sections leading to an

Reliability and Validity in Quantitative Research

improved content validity assessment. In essence, content validity demands a meticulous evaluation of the measurement instrument's substance to guarantee that it completely reflects the construct being assessed. Through leveraging expert analysis, literature scrutiny, and prototype experimentation, scholars can create a robust underpinning for their instruments' content validity.

Construct Validity

The development of a measurement instrument requires careful consideration of construct validity, which involves measuring the accuracy of gauging underlying constructs or concepts. This evaluation extends beyond content validity by scrutinizing relationships between measured and related variables while also assessing the theoretical basis that determines what is being measured. Researchers use various methods and analyses to gather evidence to establish the construct validity, which proves how accurate and appropriate the measurement instrument is. To illustrate this concept more clearly here are some detailed examples:

Factor analysis is a widely utilized statistical tool that enables examination of the fundamental arrangement within an array of observed variables. It facilitates the identification and determination of underlying dimensions or factors, thereby contributing to measurement construct evaluation. By applying Factor Analysis to data obtained from these instruments, researchers can evaluate whether items cluster together as anticipated based on theoretical constructs for effective assessment. An example of this is when language learning strategy researchers survey numerous language learners. Subsequently, they would engage in factor analysis to recognize the fundamental aspects of language learning strategies like metacognitive and cognitive methods alongside social/emotional approaches. The findings establish proof for construct validity by verifying that all items within each dimension are connected and come together to gauge the proposed concept accurately.

Convergent and divergent validity determine the accuracy of a measurement instrument in capturing a construct. Convergent validity gauges whether various measurements intended to measure the same attribute show high correlation, while divergent validity determines if different constructions produce low correlations. These assessments ensure that the research tool appropriately captures the construct under consideration. To elaborate on the language learning strategy questionnaire scenario, researchers will scrutinize how scores across various dimensions of language learning strategies relate to each other. They presume that within every dimension, there would be a strong and affirmative correlation among items portraying convergent validity. Conversely, they envisage minimal correlations between items measuring distinct strategic aspects as evidence for divergent validity.

Construct validity can also be established through hypothesis testing where researchers test the anticipated connections between the measured construct and other relevant variables. These hypotheses must follow existing knowledge or theoretical frameworks in their field. By verifying if the results align with these expected relationships, evidence for construct validity can be obtained. An investigator may have a theory that learners who employ metacognitive strategies more frequently will exhibit higher levels of linguistic proficiency. The researchers would distribute the questionnaire to participants and record their language aptitude measures. Using correlation or regression analysis outcomes, scholars can determine if this presumed association lends credence to the validity of their survey instrument.

In general, validating the construct necessitates utilizing statistical methods, investigating associations with related constructs, and conducting tests to gather evidence that confirms the precision and aptness

of the measurement tool. By applying these approaches, researchers can levy a level of assurance in measuring underlying concepts or constructions according to their interests.

Criterion-Related Validity

Establishing the relationship between measured variables and an external criterion using measuring instrument validation is a vital aspect of Criterion-related validity. It encompasses concurrent and predictive validity, both serving different purposes.

Concurrent validity is associated with the correlation between a measuring device and an established standard that are both measured simultaneously. It determines whether scores obtained from the measuring instrument correspond with those derived from an already existing criterion. As an example, in language education, researchers may devise a fresh speaking assessment rubric for assessing English proficiency. They would then evaluate the students' speaking skills by both applying this new rubric to a group of learners and utilizing an established criterion like expert rating or other commonly accepted assessments at the same time. By comparing their scores obtained from these two sources together, they can estimate how well-aligned they are with one another and establish whether their latest measurement instrument is concurrently valid.

Predictive validity refers how a measurement instrument forecasts future behaviors or outcomes. It examines whether scores obtained from the instrument can accurately predict performance on a later criterion. To illustrate the language education scenario, experts could create a placement exam to gauge the skill levels of new students before commencing their language classes. Upon administering this assessment test for a particular group of learners, they would subsequently gather information on these individuals' academic achievements in their respective courses by observing factors like grades or examination scores.

Analyzing how closely correlated or regressive these metrics are relative to initial performance appraisals based on testing results will enable researchers to determine if this diagnostic tool holds predictive value as intended. If there is a significant correlation between the placement test scores and subsequent academic performance, it would suggest that the test can accurately predict how successful students will be in language courses. This supports the idea that the placement test has predictive validity as an assessment tool. To prove the validity of their measurement tool, researchers can employ concurrent and predictive validation analyses to study how measured variables relate to external criteria. By utilizing these types of testing, they gather evidence demonstrating that the instrument accurately captures relevant constructs while successfully forecasting outcomes or behaviors.

APPLICATION OF VALIDITY IN RESEARCH: CHALLENGES, LIMITATIONS AND ETHICS

Validity in Applied Linguistics and Language Education

Several strategies can be utilized by researchers to improve the credibility of quantitative research in applied linguistics and language education.

To guarantee coherence, researchers must synchronize their measuring instruments with the fundamental theoretical frameworks, concepts, and research objectives. For instance, if an investigation is

Reliability and Validity in Quantitative Research

focused on determining how teacher feedback affects students' development in second language writing skills; precise definitions of variables (such as types of feedback or levels of proficiency) are necessary along with carefully selecting suitable measurement tools such as rubrics or error analysis criteria which can precisely capture the desired elements for evaluation.

Before administering the measurement instruments to the intended participants, researchers commonly conduct pilot studies or pretests. For example, when studying language learners' motivation, a questionnaire may be given to a small group of students, and their responses analyzed for any potential problems such as ambiguities or unclear items. Based on this feedback, revisions can be made to ensure that the questionnaire is relevant and clear for all future respondents within the target population.

Utilizing multiple data sources, including qualitative approaches like observations and interviews alongside quantitative measures, can enhance research validity. An illustration of this approach is studying language classroom interaction through observing and documenting class activities, interviewing educators and students; and augmenting these qualitative findings with surveys or video-based analyses as a quantifiable aspect supports an all-round authentic outcome of the research investigation.

Triangulation is a method that improves validity by utilizing various techniques to investigate the same phenomenon. To illustrate, researchers exploring how a specific instructional approach affects pronunciation accuracy may use both quantitative measures such as pre-and post-tests alongside interviews for qualitative data on students' perceptions of their progress. This cross-checks multiple sources and methods, thereby reinforcing the reliability of research findings through convergence.

Acquiring expert input through peer review or consulting specialists is extremely beneficial in improving the validity of research. To illustrate, when a researcher designs a language proficiency scale aimed at measuring speaking skills, they can request feedback from experienced experts in language teaching and assessment fields to ensure construct relevance, item clarity, as well as alignment with established proficiency frameworks that contribute to enhancing the credibility of the evaluation tool.

Continuous improvement should be implemented by researchers to continually assess and enhance their measurement tools through the use of empirical evidence and feedback. For instance, following a comprehensive study on online language learning platforms that examines learners' attitudes using survey questions, data can be statistically analyzed with attention given to psychometric properties. Survey items known for producing ambiguous or inconsistent outcomes may need modification or removal to improve the validity of the measuring instrument utilized by researchers. The use of these tactics can enhance the credibility and dependability of quantitative findings in applied linguistics and language education research, resulting in stronger outcomes.

Reliability and Validity in Quantitative Research Instruments

The evaluation of measurement instruments' reliability and validity is paramount in the domain of quantitative research. Surveys, tests, and questionnaires are pivotal tools for gathering data and determining variables. The assessment guarantees that the information collected can be relied upon to draw legitimate conclusions with credibility. To determine the credibility and accuracy of measurement instruments, researchers use thorough evaluation procedures that involve systematic analysis. Established frameworks and methodologies are utilized to assess the consistency of results produced by these instruments in terms of reliability and validity.

Researchers use a variety of techniques to ensure reliability and validity, as elaborated on in the previous section. Along with those techniques, evaluating the dependability and credibility of quantita-

tive research instruments also involves examining past studies and research within that field. To gain a further understanding of how different tools have been evaluated for these traits, researchers frequently refer to existing literature.

Researchers can enhance the comprehensiveness and quality of their evaluation procedures by studying successful approaches and methodologies employed in previous studies to assess reliability and validity. By drawing insights from prior experiences, researchers can effectively apply learned lessons to their own research endeavors. Through this process of utilizing examples from past analyses, they guarantee that their assessment protocols are informed and all-encompassing.

Furthermore, the evaluation procedures give rise to suggestions on how to choose dependable research instruments. Researchers can establish criteria for selecting suitable measuring tools based on their assessment results. Such recommendations may cover aspects like the psychometric features of the instruments used, study context, target population as well as research goals. Within the domain of quantitative research, assessing the trustworthiness and credibility of measuring tools involves practices beyond those related to reliability and validity exclusively. To ensure the suitability and reliability of the chosen instruments for their particular research goals and intended participants, researchers must take into account various factors.

When selecting measurement instruments, one crucial aspect to consider is their psychometric properties. These properties involve the scientific assessment of psychological constructs by gauging both the reliability and validity of these instruments for accurate and consistent results. Researchers must review whether or not they have undergone thorough psychometric testing, including evaluations on internal consistency, test-retest reliability as well as inter-rater reliability measures.

When assessing measurement instruments, it is important to consider the study's context. Various research settings may necessitate distinct types of tools or alterations to current ones. To clarify, a survey tailored for a specific cultural community might need adjustments to ensure that it pertains and has significance. Researchers should aim at harmonizing the content and layout of their instrumentation with their chosen setting as much as possible.

When selecting measurement instruments, researchers should keep their research objectives in mind. They must confirm that the chosen tools accurately align with the variables and hypotheses they aim to evaluate. Having a comprehensive grasp of the underlying theoretical framework and concepts is critical for choosing suitable instruments that precisely capture desired constructs.

When analyzing instruments, it's critical to take into account the qualities of the target audience. Attributes like age, educational attainment, and cultural background can impact how fitting or reliable a measuring tool might be. Scientists must review if these instruments have gone through validation with comparable groups and whether they feature inclusivity and sensitivity towards diverse cultures.

After choosing suitable measurement tools, researchers must contemplate the methods of conducting and collecting data. This entails selecting a mode of administration (e.g., online or in-person interviews), outlining unambiguous guidelines for participants, and affirming ethical considerations like informed consent and confidentiality.

In measuring data, researchers must take into account probable sources of bias. Social desirability may affect participants to provide responses that they think are socially acceptable instead of their real opinions or behavior. To reduce the influence of this kind of bias, randomized response techniques and anonymized surveys can be utilized by researchers.

Evaluation of measurement also entails ensuring good data quality control. To this end, researchers must gauge the comprehensiveness, precision, and uniformity of gathered information by checking for

Reliability and Validity in Quantitative Research

irregularities such as the absence or presence of some entries in the dataset; unusual values that stand out from others; and responses that differ significantly from expected patterns.

To draw significant conclusions from instrument measurements, researchers must employ relevant statistical techniques to analyze and interpret the collected data. Typical methods such as correlation analysis, regression analysis, and factor analysis alongside descriptive statistics can assist in making valid inferences. The primary objective of measuring evaluation is to guarantee that the gathered data precisely reflects targeted concepts and can effectively resolve research inquiries or verify hypotheses. Researchers can improve their measurements' dependability and authenticity and raise trust in their conclusions by adhering to stringent assessment protocols and taking into account the factors mentioned above.

Addressing Challenges and Limitations in Ensuring Reliability and Validity in Applied Linguistics and Language Education Research

The process of guaranteeing the dependability and accuracy of research in applied linguistics and language education can pose a complex task with multiple challenges. The researchers are likely to face hindrances that may have an impact on the credibility of their discoveries. This section will cover prevalent obstacles and recommend solutions to surmount them, all while emphasizing the ethical implications of conducting research that involves human subjects.

Choosing an appropriate sample that is reflective of the target population poses a challenge for researchers. If they fail to do so, biases may arise and impede the overall applicability of their findings. Mitigating this hurdle requires defining the targeted populace comprehensively and utilizing suitable sampling techniques like random or stratified selection. Furthermore, researchers must provide descriptive profiles outlining characteristics pertinent to each participant in addition to acknowledging possible limitations linked with the samples chosen.

Consider a scenario where researchers are exploring the efficacy of an innovative language intervention initiative for children grappling with speech disorders. One potential obstacle in their path could be related to recruiting participants who come from varied backgrounds and have different types of speech issues. Consequently, they may choose to partner with multiple schools or clinics to ensure that there is greater diversity among the subjects involved in the study.

In applied linguistics and language education research, the creation of dependable and accurate measurement tools carries great importance. Challenges may arise for researchers during instrument construction concerning item selection, design specifics, or overall quality assurance. To achieve both reliability and validity in their data-gathering efforts that reflect desired objectives within theoretical frameworks set forth by those conducting the study; it is vital that either an exhaustive review is conducted on current available instruments or completely new ones created from scratch meet these requirements so as not compromise findings collected therein. To surmount this obstacle, employing pilot testing proves to be an advantageous approach. Through the application of the measuring tool on a limited number of individuals, any vague or challenging questions can be identified and suitably modified by researchers. Furthermore, formulating explicit guidelines along with utilizing varied approaches to gather data such as self-reported surveys, observations, and examinations also enriches the dependability and authenticity of these tools. An example of this is when researchers investigate language anxiety among international students, as they may encounter difficulties in selecting or devising an instrument that precisely reflects the intricate essence of such anxiety. In these circumstances, conducting pilot testing with a limited

pool of international students enables them to obtain input on item clarity and relevance before making appropriate modifications to guarantee the reliability and validity of their tool.

There is an additional hurdle researchers face in applied linguistics and language education research related to gathering and evaluating data. They need to guarantee that methods of collecting information are executed uniformly and dependably among participants, observers, or raters. To evaluate the consistency between numerous observers' or raters' coding for qualitative data, interrater reliability measures such as Cohen's kappa coefficient may be utilized. Often recommended to improve the validity of data collection, triangulation utilizes various sources or methods. By amassing information from a diversity of origins - such as interviews, surveys, and classroom observations - investigators gain an all-encompassing insight into the subject being studied.

In addition, the utilization of suitable statistical analyses can enhance the authenticity of the results. To ensure accuracy, researchers must meticulously choose statistical evaluations that are relevant to their research inquiries and data properties. Seeking guidance from statisticians may prove advantageous in tackling particular analysis difficulties. One scenario where researchers may face difficulties in evaluating students' vocabulary development is when studying the influence of a language teaching intervention. The assessment instruments or techniques used could differ, causing discrepancies in measuring growth. To tackle this obstacle, multiple assessments such as teacher evaluations and student self-reports can supplement pre-and post-tests to present more precise results on vocabulary acquisition gains.

Controlling extraneous variables that may affect study outcomes proves to be a challenge for researchers. If these variables are not accounted for properly, they have the potential to introduce confounding effects or weaken the internal validity of research findings. Researchers must thoughtfully design their studies and account for possible confounders while implementing control measures with considerations such as randomization or matching techniques. Statistical approaches like regression analysis or ANCOVA can also aid in minimizing variable impact during experimentation. To illustrate, when evaluating the influence of a language immersion program on linguistic aptitude, it may be necessary for scholars to manage variables such as prior language experience, socioeconomic standing, or educational history among the subjects. By maintaining similar distributions of these aspects between experimental and control subsets, researchers can elevate the credibility of their discoveries internally.

The generalizability of research findings poses yet another obstacle. The study of applied linguistics and language education typically delves into distinctive contexts, groups, or interventions that hinder the broad applicability of results. Consequently, researchers must exercise prudence when making sweeping claims and explicitly stipulate any constraints concerning their outcomes' transferability to other settings or populations. Additionally, they could undertake additional investigations in diverse scenarios to bolster external validity. An investigation that analyzes the impact of a certain teaching approach on how accurately adult learners pronounce words might provide helpful knowledge. Nonetheless, extending these findings to other learner groups such as children or those from different cultural backgrounds could be restricted. Admitting this restriction and performing further research with more varied populations can improve the research's overall external validity.

Time, resource availability, and participant/data access are commonly encountered limitations by researchers that can potentially affect research quality and extent. To mitigate such impacts, it is advisable for researchers to meticulously plan their approach whilst allocating resources. They should consider alternative methodologies or approaches in addition to acknowledging any resultant limitation caused by these constraints with clarity. If a researcher is conducting a longitudinal study on language development, they could come across obstacles when it comes to keeping track of the same participants for an

Reliability and Validity in Quantitative Research

extended period due to logistical constraints or attrition. Despite these challenges, cross-sectional studies can offer valuable insights and alternative designs that researchers should consider using. To tackle these obstacles, researchers must meticulously plan their approach, and be open about the methods used and potential limitations encountered through transparent reporting. Additionally, ongoing communication within the research community is essential. With such measures in place, researchers can boost the credibility and soundness of their studies in areas related to applied linguistics or language education by anticipating challenges as well as addressing them head-on.

Depending on the research context and target population, obtaining participants and data can pose a considerable obstacle. This is especially true if researchers are focusing on sensitive topics or targeting a specific demographic that may be difficult to recruit from. Additionally, accessing certain types of data such as language proficiency assessments or educational records could be subject to privacy constraints or institutional policies which may limit availability for study purposes. To mitigate these challenges, researchers must develop well-thought-out recruitment techniques in addition to seeking approval through proper channels before tapping into crucial sources of information. When examining how language policies affect educational outcomes, researchers confront difficulties in obtaining data from educational institutions because of confidentiality limitations. However, they can surmount these obstacles by forming partnerships with pertinent stakeholders, procuring necessary authorizations, or conducting alternative methods of data acquisition (such as surveys or interviews).

Collaboration between applied linguistics and language education research frequently necessitates an interdisciplinary approach that encompasses fields such as psychology, statistics, and education in addition to linguistics. However, this multidisciplinary nature creates obstacles by requiring researchers from different disciplines to overcome differences in research methodologies, terminology usage across disciplinary boundaries, and theoretical frameworks. Thus the investigators of these studies need to bridge gaps between varied faculties whilst establishing effective communication channels among colleagues who possess diverse perspectives. Collaboration between researchers studying language development and cognitive processes, requiring input from professionals in psycholinguistics or cognitive psychology fields, can bolster the extent and excellence of research findings.

Exploring the Ethics Involved in Research Conducted on Human Participants

The foundational ethical principle of informed consent necessitates that researchers obtain the voluntary and knowledgeable agreement of participants before they participate in a study. It is incumbent upon researchers to furnish clear, understandable descriptions of research objectives, experimental procedures, anticipated length of involvement, as well as possible hazards and advantages. Furthermore, it behooves them to ensure participants are fully cognizant of their privileges—including the unsullied ability to departure from the investigation with no repercussion—informed permission can be given through written agreements or other formats such as audio/video recordings or verbal affirmations based on the nature of research settings involved. When conducting a study on language learning strategies in college students, researchers must furnish comprehensive data about their research goals, the modes of collecting information (for instance surveys and interviews), likely hazards (like exposure of confidential details or time investment) as well as advantages (such as advancing knowledge in said field). Interested participants will be requested to signify informed consent by signing appropriate documents before taking part.

Throughout the research process, it is incumbent upon researchers to guarantee both confidentiality and anonymity for study participants. Such measures should encompass safeguarding data by means of

secure storage techniques as well as implementing participant codes or pseudonyms to maintain privacy. Any reporting on findings must involve de-identification methods being employed. It also follows that researchers inform their subjects about how collected data will be utilized, who may access it, and any efforts taken towards ensuring a breach-free level of safety concerning personal details disclosed during participation. When conducting a research on language development among children, the researchers would implement measures to safeguard the privacy and personal details of participants. These steps may include ensuring secure storage for data, employing participant codes instead of real names during analysis and reporting phases, as well as granting accreditation solely to authorized individuals partaking in the study.

Researchers must reduce all possible forms of harm that may affect participants physically, psychologically, socially, or emotionally. A cautious evaluation should be carried out on the hazards linked with research proceedings and interventions to prevent them accordingly. The procedures could comprise seeking ethical authorization from review boards; monitoring participant welfare during the study period; providing encouragement or therapy services when necessary and modifying investigation techniques based on feedback acquired from participants. Researchers conducting a study on the impact of language learning interventions on cognitive abilities would devise interventions that cause minimal discomfort or harm to participants. They would carefully monitor their well-being and mental health, providing resources for professional support in case any negative effects arise.

When dealing with susceptible groups like kids, people with disabilities, or language barriers, it is essential to take extra measures to protect their rights and welfare. Researchers must secure informed consent from both participants and authorized guardians or representatives. In these scenarios, research protocols should account for the age range of subjects, the mental capacities they possess as well as cultural grounds; this will help guarantee a comprehensive comprehension of the study's motives and procedures by everyone involved. When researching language development among preschoolers from diverse cultural backgrounds, researchers will seek permission from the children's guardians or parents and provide translated consent forms where required. Furthermore, they adapt research methods and materials to align with the participants' developmental stage as well as their culture.

To get their research projects evaluated and approved, researchers must often present their proposals to ethical review boards or committees. These groups examine the potential ethical impacts of each study, offer recommendations, and verify that all protocols meet established standards for ethics in research. Researchers need to adhere strictly to this evaluation process as well as address any concerns raised by the committee before beginning their investigations. Academic researchers may be required to seek ethics approval from their institution's Institutional Review Board (IRB) before proceeding with data collection. The IRB ensures that the research follows ethical standards, safeguards participants' welfare, and adheres to legal as well as regulatory requirements. Through the application of ethical principles and implementation of suitable measures, researchers have the ability to prioritize both human participants' well-being and rights while also contributing towards applied linguistics and language education knowledge advancement.

When conducting research procedures or interventions, researchers have to take into account the possible risks that come with them and think of ways to reduce any adverse effects on participants. Ethical review boards, institutional guidelines, and compliance with professional ethical standards can offer guidance in handling these concerns prudently. To ensure the trustworthiness and accuracy of research findings in applied linguistics and language education, it is essential to tackle limitations and obstacles carefully at every stage of the study. Researchers should adopt effective techniques from selecting samples

Reliability and Validity in Quantitative Research

to developing tools, collecting data, and analyzing information, all while considering ethical principles that protect participant rights.

Practical Applications and Implications

The assurance of data reliability and validity is imperative in quantitative research to generate dependable and precise results. We should examine the real-world uses and consequences of reliability and validity in research, with a focus on language education settings.

As previously mentioned, reliability pertains to the dependability and durability of measuring instruments or procedures. It assures that identical outcomes are achieved when conducting research under comparable circumstances. In contrast, validity concerns the precision and importance of measurements in capturing intended constructs or variables effectively. The combination of ensuring both reliability and validity can bolster researchers' credibility by fostering confidence in their findings' accuracy and integrity. When researching the effectiveness of a language learning intervention, researchers must guarantee that they use dependable assessment tools that yield reliable results. This can be achieved by administering identical tests multiple times and obtaining consistent scores. Furthermore, these assessment tools must precisely gauge the targeted language skills (e.g., vocabulary, grammar, and speaking) associated with the study's objectives.

Having dependable and accurate data in the field of language education research is essential for making sound judgments and putting into action evidence-based strategies. Such discoveries can help shape policies, create syllabus programs, improve instruction methods, and enhance assessment techniques. To promote fair and equitable language proficiency standards in educational institutions, language policymakers need to utilize trustworthy research findings on language assessment. By doing so, they can ensure that students who are learning a second or foreign language are evaluated consistently and accurately across various educational settings.

The comprehension and utilization of principles related to reliability and validity can be highly advantageous for language educators who engage in research or pedagogical pursuits. By integrating dependable and authentic evaluation tools, instructors are equipped with the capability to precisely evaluate learners' advancement, pinpoint their specific areas of weakness, and customize instruction plans appropriately leading toward more efficacious outcomes regarding teaching a foreign language. An instructor of language who creates an assessment tool that is both dependable and authentic can gather precise insights into the speaking aptitude of their pupils. With this knowledge, they can furnish constructive feedback to students while devising activities tailored towards ameliorating their spoken proficiency.

Improved accountability in language education is facilitated by dependable and credible research discoveries. Stakeholders, namely policymakers, educators, and administrators can validate their decisions when supported by sound evidence; hence responsible for the results obtained as a consequence of those choices. To showcase the impact of a language program, an educational administrator can furnish dependable and sound statistics on student achievements and program efficacy. Such evidence aids in making informed decisions, acquiring financial support, and building trust among diverse stakeholders.

Researchers are guided by reliability and validity considerations when designing quality studies. They assist in the choice of suitable measurement tools, sampling techniques, and research methodologies in language education research, leading to an improvement in overall study credibility. By paying attention to these tenets, researchers can reduce erroneous measurements while enhancing their findings' precision. A pilot study can be conducted by a researcher to evaluate the consistency and accuracy of survey

instruments used in measuring students' perceptions of technology-enhanced language learning programs. Through rigorous analysis of these psychometric properties, reliable data can be obtained which would ensure that the intended constructs are being adequately measured through consistent survey items.

To uphold ethical considerations in research, reliability, and validity have a vital role to play. Researchers can safeguard the rights and interests of participants by utilizing trustworthy measurement tools that prevent them from being exposed to unreliable or invalid assessments. This approach not only preserves the integrity of the research process but also promotes participant well-being. To ensure accurate evaluations of students' progress, researchers conducting a study on the efficacy of language interventions must establish dependable and valid assessment methods. This guarantees that the impact of these interventions is appropriately measured, enabling participants to receive just and reliable assessments for their performance.

In language education, adherence to stringent standards of reliability and validity in quantitative research reaps significant benefits for the broader academic sphere. This diligent approach ensures that researchers generate top-notch material that can be easily replicated and compared between studies, bolstering cumulative knowledge within this field. The ability to validate findings contributes significantly towards improving teaching practices as well as learning outcomes while also providing a solid foundation upon which discoveries may flourish through rigorous investigation. A language proficiency test for a particular population is evaluated by a researcher, and the results of their study can aid other researchers involved in developing or modifying similar assessments. This reference value saves significant time and resources.

Quantitative research often uncovers areas that necessitate additional investigation when studying reliability and validity. Researchers may come across limitations or deficiencies in existing measurement tools, providing opportunities for creating new instruments or enhancing current ones. By promoting continuous enhancement and innovation, this iterative process propels the field forward. If a researcher analyzes an established language placement test, they may uncover evidence indicating it does not effectively forecast students' ensuing linguistic capacity. Such a discovery might inspire additional research aimed at enhancing the predictive value of this assessment tool or exploring other means of evaluation.

The establishment of reliability and validity aids the generalization of research findings. If measurement tools are reliable and valid, along with consistent research procedures, it instills greater confidence in expanding results to a broader population or distinct contexts. Such an outcome enhances external validity while permitting wider implications and applications regarding the study's discoveries. In investigating the efficacy of a particular teaching approach for enhancing second language acquisition, researchers may utilize dependable and accurate evaluation methods to gauge linguistic competence among various groups of learners. By producing substantial conclusions, these findings can be applied across differing scholastic contexts and heterogeneous student populations, thus furnishing invaluable perspectives for language teachers and governmental decision-makers.

Meaningful comparisons between different research studies and interventions are made possible by reliability and validity. By utilizing reliable and consistent measurement tools, researchers can compare their findings across diverse educational contexts, studies, or interventions; this helps identify trends, patterns, as well as best practices in language education. Ensuring the language assessment measures' reliability and validity allows researchers to compare different instructional interventions' outcomes. This helps them determine which interventions are more successful in promoting language development, providing valuable insights for designing and implementing future language education programs.

REFERENCES

- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. American Educational Research Association.
- Cooper, D. R., & Schindler, P. S. (2020). *Business research methods*. McGraw-Hill Education.
- DeVellis, R. F. (2016). *Scale development: Theory and applications* (4th ed.). Sage Publications.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. SAGE Publications.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2021). *Multivariate data analysis* (9th ed.). Cengage Learning.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage Publications.
- Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of behavioral research*. Cengage Learning.
- Messick, S. (1989). Validity. In R. L. Linn (Ed.), *Educational measurement* (3rd ed.). American Council on Education and Macmillan.
- Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.
- Trochim, W. M., & Donnelly, J. P. (2008). *Research methods knowledge base*. Atomic Dog.

ADDITIONAL READINGS

- Christensen, L. B., Johnson, R. B., & Turner, L. A. (2015). *Research methods, design, and analysis* (12th ed.). Pearson.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publishing.
- Khoa, B. T., Hung, B. P., & Hejsalem-Brahmi, M. (2023). Qualitative research in social sciences: Data collection, data analysis and report writing. *International Journal of Public Sector Performance Management*, 12(1-2), 187–209. doi:10.1504/IJPSPM.2023.132247
- Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd revised edition). New Age International Publisher.
- Walliman, N. (2011). *Research methods: The basics*. Routledge.

KEY TERMS AND DEFINITIONS

Concurrent Validity: The correlation between a measuring device and an established standard that are both measured simultaneously.

Construct Validity: The accuracy of gauging underlying constructs or concepts.

Content Validity: The inclusion of all pertinent features of the construct in the measurement instrument.

Criterion-Related Validity: The relationship between measured variables and an external criterion using measuring instrument validation
Internal consistency: the level of coherence or association among distinct components contained in a measuring device, such as a questionnaire or scale.

Inter-Rater Reliability: The harmony or concurrence amongst several examiners or observers in evaluating and making decisions.

Predictive Validity: The extent to which a measurement instrument forecasts future behaviors or outcomes.

Reliability: Dependability and authenticity of quantitative research.

Test-Retest Reliability: The uniformity of a measurement or tool when it is given twice to identical people on different occasions.

Validity: The extent to which a research endeavor precisely gauges its designated factors.

Chapter 8

Sampling, Generalizability, and Reliability

Nghi Tran Tin

 <https://orcid.org/0000-0001-6549-3895>

Ho Chi Minh City University of Industry and Trade, Vietnam

Hung Phu Bui

 <https://orcid.org/0000-0003-3468-4837>

University of Economics Ho Chi Minh City, Vietnam

ABSTRACT

This chapter presents the intricate process of sampling within the context of applied linguistics and language education research, providing a comprehensive overview of various sampling techniques and their critical roles in ensuring the validity and reliability of research outcomes. It thoroughly examines both probability and nonprobability sampling methods, outlining their respective advantages, limitations, and suitable applications. Through detailed discussion, the chapter highlights the importance of careful sample selection to accurately reflect the population of interest, thus ensuring the generalizability of the research findings. Key considerations such as sample size determination, minimizing sampling bias, and ethical issues related to sampling are explored, offering valuable insights for researchers. By integrating these considerations with practical examples and guidelines, this chapter aims to equip researchers in applied linguistics and language education with the knowledge to design robust studies that can contribute significantly to the field.

INTRODUCTION

Sampling is a crucial issue in research methodology. In applied linguistics and language education, several scholars have discussed different aspects of the importance of sampling, including sampling strategies and sample size (Creswell & Creswell, 2017; Salkind & Rainwater, 2009). However, in some contexts, this issue is overlooked, misperceived, and/or misused. The aptness by which target population samples are decided upon and the rigor of the processes determine the weight of the contribution

DOI: 10.4018/979-8-3693-2603-9.ch008

a study. Thus, the sampling techniques used are of major concern in the current literature. This chapter discusses sampling principles and procedures in applied linguistics and language education research in an attempt to provide guidelines for novice researchers and students at various levels (undergraduate, graduate, and postgraduate) to use to conduct their research successfully.

Most researchers have to collect data from specific populations, which is often impractical or even impossible (Buchstaller & Khattab, 2013). This could be an immense multitude, that is, thousands or even millions of people, from students in an entire school district to teachers studying in multiple countries to English language learners—all these groups constitute the study objects of language researchers. It would take an excessive amount of time, resources, and travel to collect the entire population's data. Sampling is a feasible solution that involves selecting a small part of the whole population that will represent the majority. If sampling is carried out appropriately, the findings from the sample can be generalized to the general population within defined confidence levels and error margins (Dornyei, 2007). This leads to a situation where researchers can confidently claim that language learners, bilingual students, teachers, and other groups have measurable characteristics without studying each person.

It is the sampling that makes the data collected sound and objective. Random population representation eliminates probable bias in surveying restricted narrow slices. Sampling methods ensuring probability also provide mathematical evidence of the likelihood that the sampled group represents the population (Patton, 2014). With careful sampling, researchers can avoid presenting biased views, limiting the range of choices, and producing findings that may be correct only for a few minor groups but not for the general population (Mackey & Gass, 2015).

SAMPLING STRATEGIES

Sampling strategies can be divided into two main groups: probability and non-probability sampling. Probability sampling strategies are associated with quantitative research since they involve a strict data-gathering approach (Cooksey et al., 2019). It is a method based on mathematical and statistical laws. They suggest researchers make empirical probabilistic statements from random samples of the target population using the available data (Creswell & Creswell, 2017). Probability sampling includes simple random sampling, systematic sampling, stratified sampling, cluster sampling, and multistage sampling.

Simple Random Sampling

Simply put, the name of this method gives a clue about what it is – a way of picking subjects randomly from the sampling frame until the desired sample size is reached. With every individual choosing randomly and no one being favored over another, biases are curtailed while representativeness increases (Christensen et al., 2011). Simple random sampling requires the creation of a sound sampling frame containing the entire target population, which can be tedious and costly (Cooksey et al., 2019).

Simple random sampling can be used to ensure that all members of the target population have an equal chance of being included in the sample, suggesting that this strategy can minimize biases and enable the results to be generalized to the entire population of high school ESL learners in the context (Noor et al., 2022; Singh & Singh, 2003). To use simple sampling strategy, the researcher can utilize the following 3-step process: (1) defining the population, (2) creating a sampling frame, and (3) selecting

Sampling, Generalizability, and Reliability

the desired sample manually or by using software. It is essential to note that the researcher may need to examine the sample adequacy after they collect the data and then recruit more participants if necessary.

Systematic Sampling

This can be used when the researcher has to target large populations. After the first subject is chosen at random, the researcher can systematically select individuals out of an orderly sampling gallery instead of choosing all subjects randomly. A selection interval producing the desirable percentage of the population size to the sample size is computed. (Kothari, 2004). This is to say that randomization still occurs initially, and then the sampling process follows a particular design or systematic pattern, providing maximum coverage and scatter without much effort compared to straightforward randomization of all the individuals, which simultaneously excludes the possibility of selection bias (Levy & Lemeshow, 2013).

As earlier said, systematic sampling can be used when the researcher targets particularly large populations. The procedure, therefore, should be considered carefully so that the researcher can conduct the study with ease and efficiently. The process involves the following six phases: (1) defining the population, (2) determining the sample size, (3) creating a list of potential participants or subjects, (4) determining the sampling interval, (5) selecting the first subject at random, and (6) selecting the subsequent participants using the sampling interval (Thompson, 2012).

Stratified Sampling

The controls of random sampling are extended to parts of homogeneous, nonoverlapping strata by systematically drawing one or more subjects from each stratum. There are many common strata, such as age brackets, geographical locations, grade levels, language proficiency tiers, and socioeconomic strata. The aim here is to provide the appropriate representation by selecting subjects from each stratum according to their weights in the population (Miestamo et al., 2016). It is a strategy to ensure that the majority subgroup is not overemphasized, thus allowing subgroup characteristics to be studied. Two types of sampling can be carried out within each stratum: simple random or systematic sampling. During the initial stage, proportional strata should be built carefully with sufficient population data (Dornyei, 2007; Krejcie & Morgan, 1970). Overall, strategic stratification preceded by randomization within the stratum results in a sample representative of different populations to make subgroup comparisons.

As each stratum should be carefully defined to ensure that participants within it are as similar as possible concerning the criteria, but the strata are different from each other, the researcher may employ the following sampling procedure with three stages: (1) determining the sample size, determining the sampling strategy, and selecting the intended participants or subjects.

The benefits of stratified sampling are targeted insights and precise results as well as reducing bias. This approach allows for a detailed analysis of how different second language acquisition methods work in various subgroups, this then enables more targeted educational strategies (Dornyei, 2007). Additionally, it increased precision by ensuring that all significant subgroups of the population are represented according to their actual proportion in the population. Thus, stratified sampling can lead to more precise and reliable results than other sampling methods. Finally, it reduces bias as stratification reduces the risk of overemphasis on any subgroup, ensuring a balanced representation and allowing for meaningful comparisons between subgroups.

Stratified sampling can be effectively used in applied linguistics research to gain insights into how different variables (e.g., age, language proficiency) affect the outcomes of interest, such as the effectiveness of second language learning methods. By acknowledging and planning for diversity within the target population, researchers can obtain more nuanced and actionable findings.

Cluster Sampling

Going beyond the mapping of elements, cluster sampling identifies clusters as the units of selection. The blocks include classrooms, schools, neighborhoods, cities, and other groups with natural boundaries. Cluster sampling omits burdensome primary sampling frames, relying on higher-level aggregates as listings from which the clusters are selected at random. A cluster sampling method consists of selecting all the elements of all the selected clusters (Wu et al., 2020). This method addresses the tendency of populations to naturally tend to cluster.

This approach offers the benefits of efficiency, feasibility, and diversity representation.

Cluster sampling is particularly efficient for studies covering large geographic areas because it reduces the need for a comprehensive list of all individuals in the population and simplifies logistics. This method is feasible when studying populations that are naturally divided into groups (clusters), such as cities and neighborhoods, in the context of linguistic research. Cluster sampling can capture the diversity of language attitudes within and across multilingual cities by including various demographic and linguistic backgrounds.

However, one potential challenge is that individuals within the same cluster (e.g., a neighborhood) might be more similar to each other than to individuals in other clusters, which can affect the variability of the sample.

Cluster sampling can be used in applied linguistics research to efficiently study complex phenomena such as language attitudes across different geographical and demographic groups within multilingual environments.

Multistage Sampling

This combines a random process of reducing the population into the final sample by successive narrowing through randomization. Initially, large clusters are causally chosen from the highest level. Then, subclusters from the selected clusters are randomly chosen. This follows sequential subsampling until the most minor randomization units efficiently arrive at individual subjects. This heterogeneity combines the advantages of clustering and stratified techniques to expedite sampling and facilitate exploration in various locations (Shimizu, 2014). Language policy studies should begin with country-level randomization.

This approach has the benefits of efficiency, cost-effectiveness, representativeness, and flexibility. Multistage sampling reduces the cost and time required for data collection by systematically narrowing the population to a manageable sample size (Whittemore, 1997). This method ensures that the sample is representative of the broader population by including students from diverse geographical areas, schools, and backgrounds. Also, multistage sampling allows researchers to adjust the sampling strategy at each stage based on practical considerations and emerging research needs.

Multistage sampling can be effectively used in applied linguistics research to study complex issues such as language proficiency across different geographical and socioeconomic contexts. By combining

Sampling, Generalizability, and Reliability

elements of clustering and stratified sampling, multistage sampling offers a flexible and efficient approach for designing and conducting large-scale educational studies.

Nonprobability sampling is associated with the nonrandomization of quota sampling (Vehovar et al., 2016). Through the post hoc selection of informative subjects, nonprobability methods allow researchers to delve into constructs, processes, contexts, and applied linguistics phenomena. Common approaches include accessible, deliberate, and chain sampling, which rely on social networks. Nonprobability sampling strategies may include convenience sampling, purposive sampling, homogeneous sampling, typical case sampling, extreme/deviant case sampling, critical case sampling, maximum variation sampling, expert sampling, and snowball sampling.

Convenience Sampling

It refers to first and, as it is clearly said, includes subjects that are convenient to reach and available to the target population. It is also known as accidental or opportunity sampling, which focuses on participants who are accessible for easy recruitment rather than randomization. A working example is a researcher studying vocabulary teaching strategies who selects classes from their school for proximity and the teachers willing to sacrifice their time to volunteer. This approach is pragmatic and offers operational efficiency and fewer sampling requirements. Nevertheless, concentrating only on convenient cases may cause the neglect of the other subgroups and the introduction of specific biases.

The benefits of convenience sampling are its practicality, efficiency and cost-effectiveness.

Convenience sampling is practical and straightforward, especially for teachers or researchers with limited access to a wide range of participants. This method allows for quick data collection because it involves participants who are readily available and willing to participate (Wild et al., 2022). This type of study has minimal logistical and financial implications since it was conducted within teachers' own classes using existing resources .

However, there are limitations in terms of bias and generalizability. The sample may not be representative of the broader population of language learners, as it only includes students from specific classes who might share similar characteristics (e.g., age, proficiency level, learning preferences). This limits the generalizability of the findings. Also, students who agree to participate may be more motivated or interested in language learning than the average student, which could skew the results.

Convenience sampling can be applied in applied linguistics research to explore innovative teaching strategies within a manageable and accessible context. While offering practical advantages, it is important for researchers to be aware of the limitations regarding the representativeness and potential biases of convenience samples.

Purposive Sampling

This method involves researchers identifying participants according to previously determined criteria/reasons in tandem with the study aims/objectives. The purposive approach concentrates on information-coded individuals that display characteristics that exemplify experiences, knowledge, or processes central to the research questions. Purposive techniques allow one to perform an in-depth study instead of producing general statements (Campbell et al., 2020). Forms of purposive sampling include extreme diversity, where the cases are chosen as the variables from which the similarities and the core experiences shared by different groups can be obtained. For instance, taking a sample of English learners from

varying home languages, proficiency levels, ages, and schooling backgrounds allows us to see what they have in common.

The benefits include targeted insights and a depth of understanding. Purposive sampling allows for the collection of rich, detailed data from individuals who possess specific characteristics relevant to the research question. It also facilitates an in-depth exploration of complex issues such as cultural influences on language learning, which might be overlooked in broader sampling strategies (Campbell et al., 2020).

On the other hand, it only offers limited generalizability and can introduce researcher bias. The findings from purposive samples may not be generalizable to all language learners, as the sample is selected based on specific criteria rather than randomly. This selection process could introduce bias, as it relies on the researcher's judgment to identify participants who fit the criteria.

Purposive sampling can be effectively used in applied linguistics research to investigate nuanced questions related to cultural influences on language learning. By carefully selecting participants who meet specific criteria, researchers can gain deep insights into the experiences and perspectives that are most relevant to their study objectives.

Homogeneous Sampling

Similar participants in terms of experiences unique to a specific group are chosen. There are specific issues only found in the samples from the English learners who are intermediate adults and not beginners and advanced speakers—a critical sampling of participants searching for an exemplary subject that unwittingly but concisely epitomizes the critical phenomenon. For instance, young bilingual students who displayed excellent bilingual development.

The benefits of this approach are focused insights and efficiency while the limitations include limited scope and potential bias. Homogeneous sampling allows for a deep dive into the experiences and needs of a specific group, yielding detailed insights that might be diluted in a more varied sample. Focusing on a specific group reduces the complexity of data analysis and helps to identify common themes and patterns more quickly. On the other hand, while offering depth within a specific group, the findings may not be applicable to learners at other proficiency levels or from different age groups. Also, the focus on a specific group may overlook the diversity within the group and the range of experiences and perspectives that exist among learners at the same proficiency level.

Homogeneous sampling can be used in applied linguistics research to focus on the unique experiences of a specific group, allowing for a detailed examination of the strategies and challenges unique to adult intermediate English learners (Streeter, 1969). This method facilitates targeted research that can inform more effective language teaching practices tailored to the needs of a particular learner demographic (Buchstaller & Khattab, 2013).

Typical Case Sampling

This involves the selection of average subjects or those that are normal and common. English learners with shared challenges provide the focus, which may serve as the basis for examining user needs.

This benefits researchers in that it facilitates representativeness and focusing on common challenges but it can exclude outliers and the definition of 'typical' can be subjective (Streeter, 1969). Typical case sampling helps to ensure that the findings are reflective of the average or most common experiences among English learners in each age group, providing a solid basis for generalizing the results. It allows

Sampling, Generalizability, and Reliability

researchers to concentrate on problems that are widely encountered, which can inform the development of targeted interventions or instructional strategies to address these common issues (Scholfield, 1991). However, while focusing on typical cases can illuminate common challenges, it may also overlook the unique or extreme challenges faced by learners who fall outside the average range, potentially missing out on valuable insights. Additionally, determining what constitutes a typical case may involve subjective judgment, which could influence the selection of participants and the interpretation of data.

Extreme/Deviant Case Sampling

This method seeks out those who are representative of different or atypical cases that express the phenomenon in question in an exaggerated or manifest fashion. Very unusual cases, rare traits, or outcomes allow researchers to study the factors, influences, and conditions that led to their extreme status through a very close examination. For instance, surveying several language learners who became fluent very quickly or very slowly will assist in finding connections to their rapid progress or the problems they have experienced. The insight gained in this respect can highlight generational processes.

The benefits include innovative insights and the ability to understand outliers. Studying extreme cases can uncover insights and strategies that are not apparent in the general population, potentially leading to innovative approaches in language teaching and learning. This method helps in understanding the full range of possibilities within language learning, including what factors may lead to exceptionally positive outcomes (Szyszka & Lintunen, 2023).

On the other hand, there are limits in terms of generalizability and selection bias. The findings from extreme cases may not be applicable to all learners, as these cases represent outliers rather than the average learner's experience. Also, identifying and selecting true extreme cases requires careful consideration to ensure that these cases are genuinely deviant due to the factors under study rather than other extraneous variables.

Extreme/deviant case sampling can be utilized in applied linguistics research to investigate the phenomenon of accelerated language learning among adults, for instance. By focusing on atypical cases of rapid language acquisition, researchers can delve into the specific conditions and strategies that facilitate such exceptional outcomes, offering valuable insights that could inform more effective language teaching methodologies.

Critical Case Sampling

This approach defines potential participants into two groups: those that are important and those that are not important. Investigators focus on those subjects that typify the essential traits, contexts, or processes in relation to the research question. Here, we select the individuals that most exemplify the research topic at hand. For instance, providing gifted bilingual students with ample development opportunities represents the most exemplary dual language learning and pedagogic approach. A critical study of these best cases will result in deep, profound knowledge (Cooksey et al., 2019).

While this approach offers focused insights and offers the potential for generalization, it also involves limited representation and the potential for selection bias. Critical case sampling allows for an in-depth exploration of the most successful instances of dual language education, providing clear examples of what works well in these settings. While the cases are specific, the insights gained can often be generalized to inform best practices in dual language education for a broader range of students. Unfortunately, focusing

on exceptional cases may not capture the challenges and experiences of the average or struggling student in dual language programs. Also, the process of identifying exemplifying participants requires subjective judgment, which could introduce bias in the selection of participants (Delice, 2010).

Critical case sampling can be effectively used in applied linguistics research to investigate the specific context of gifted bilingual students in dual language programs. By concentrating on cases that exemplify the most successful outcomes, researchers can derive valuable insights into the factors that contribute to these successes, offering guidance for educators and policymakers aiming to optimize dual language education.

Maximum Variation Sampling

This method seeks diversity. It draws participants from diverse groups to deliberately show the widest possible variation to discover the basic shared patterns. For instance, taking English learners with varied mother-tongues, proficiency levels, age groups, personalities, and learning backgrounds can unveil the core needs for all learners. It cuts across the board of diverse individuals and may indicate experiences that are shared by the rest of the population (Cooksey et al., 2019).

The benefits of this approach are comprehensive understanding and the identification of universal themes. This method allows for a rich, nuanced understanding of English language learning challenges by incorporating perspectives from a broad range of learners. Also, by analyzing data from a maximally varied sample, researchers can identify core challenges and needs that are common to English learners, regardless of their background (Podesva & Sharma, 2014).

On the other hand it has limitations in terms of the complexity of analysis and resource intensiveness. The diversity of the sample may introduce complexity into the data analysis process, requiring careful interpretation to distinguish between individual and common experiences. Collecting and analyzing data from a wide variety of participants can also be time-consuming and requires significant resources.

Maximum variation sampling can be used in applied linguistics research to explore the complexity of English language learning across a highly diverse learner population. By embracing diversity, this approach seeks to uncover universal challenges and needs, providing valuable insights that can inform more effective and inclusive language teaching practices.

Expert Sampling

This sample seeks out participants with high ability levels. While ESL program directors were not directly involved, questionnaires were used to gather information on their experience based on their knowledge. The two approaches are based on the strategic, intentional selection principle that aligns with the research focus's core principle. Nevertheless, subjectivity and non-generalizability are still challenges. The main factor influencing the success of purposive sampling is the experience of the population under consideration.

While expert sampling offers a depth of insight and results in high quality data, it has limits in terms of subjectivity and non-generalizability (Ansarifar et al., 2018). Expert sampling provides access to a wealth of experience and knowledge, offering deep insights into effective ESL program design. Information gathered from seasoned experts is likely to be of high quality and relevance, reflecting best practices grounded in successful outcomes. However, the selection of experts can introduce subjectivity, as the criteria for determining expertise may vary. Insights from a specific group of experts may likewise not

Sampling, Generalizability, and Reliability

be generalizable to all ESL programs, especially those in different contexts or with different resources (Podesva & Sharma, 2014).

Expert sampling can be effectively utilized in applied linguistics research to gather in-depth insights into ESL program design from a highly knowledgeable and experienced group of professionals. By focusing on individuals with a high level of expertise, researchers can access specialized knowledge and practices that are pivotal to success and innovation in ESL education.

Snowball Sampling

It uses social networks to find untouched or data-concentrated resources. This method is sometimes called chain referral sampling, during which researchers choose to recruit a few known individuals from the target population. Then, those individuals recommend some acquaintances who also meet the inclusion criterion. Through endogenous network effects, snowball sampling can provide researchers access to interlinked groups of people such as undocumented immigrants or Native language speakers (Etikan et al., 2016).

The benefits of this approach are that it provides access to hard-to-reach populations while simultaneously building trust. Snowball sampling is highly effective for researching communities that are difficult to access due to geographical isolation, cultural sensitivities, or political reasons.

Initiating the study with known contacts and expanding through personal referrals can help build trust within the community, which is crucial for sensitive topics such as language preservation.

However, there is a potential for bias and a lack of representativeness. The sample may be biased toward the social networks of the initial contacts, possibly overlooking diverse perspectives within the broader community. The final sample may not be representative of the entire population of language speakers, as it is influenced by the personal networks and relationships of participants (Etikan et al., 2016).

Snowball sampling can effectively be used in applied linguistics research to study linguistic practices and preservation strategies among speakers of endangered indigenous languages. By leveraging social networks and personal referrals, researchers can gain valuable insights into the linguistic dynamics of communities that are otherwise challenging to access.

A BRIEF COMPARISON OF PROBABILITY AND NONPROBABILITY SAMPLING STRATEGIES

Nonprobability sampling is exploited for validity-driven, constructionist, yet context-sensitive, exploration of overlooked case studies. The case of a social researcher on a critical ethnography project concerned with empowering marginalized Latino immigrant families is an example. This social researcher may use purposive and snowball sampling to identify and develop a strong rapport with the right contacts in the tight-knit community. Although it is not generalizable, the in-depth analysis of a few families selected for marginalization can stimulate advocacy and make people aware of it.

On the other hand, the conclusions of studies using these methods only apply to those selected cases. Biases also remain without built-in randomization safety mechanisms. Therefore, quantitative researchers may employ both nonprobability methods and probability designs. For example, a mixed methods study examining bilingual education models might use dual language and English-only classrooms to run statistical comparisons by random sampling but then purposefully sample outstanding teachers from

both programs for qualitative inputs to highlight effective teaching styles. On the other hand, this solid practical integration allows nonprobability flexibility while still achieving probability-based generalization.

Sampling is a critical phase in the research design. However, there is a trade-off between probability and nonprobability sampling methods concerning a study's validity, appropriate analyses, and generalizability. In the most basic sense, the critical difference is the role of chance. Probability sampling is a method by which members of a population are assigned a nonzero value and their chances of selection are based on random statistical laws; it assures an equal chance of selection for all population members. This transparency guards against biases by facilitating the selection of candidates from different backgrounds. In that respect, nonprobability sampling is based on the researcher's subjective or purposive selection of participants based on the set parameters of the study aim. It is not a lucky shot but rather a premeditated decision.

This implies that the chosen study population will facilitate the creation of a generalized model. Probability sampling allows us to determine the sample's representativeness and generalization to the target population with any statistical claims made based upon the mathematics of random selection. Statistical significance testing quantifies the degrees of error and confidence levels. On the other hand, nonprobability sampling has no statistical foundation for generalization, as participants were selected causally (not randomly). The report is limited to the surveys per se, even though nonprobability techniques may hardly produce reliable explicit evidence. However, in-depth case studies can still be beneficial for building constructive exploratory insights.

Resource considerations also differ. In the early stages, probability sampling requires the expenditure of extensive resources and time to build detailed and complete sampling frames, including the entire targeted population. Owing to the encyclopedic structure, an adequate execution of this randomization has immense costs. Nonprobability sampling tends to be less time-consuming, capitalizing on the accessibility of subjects and existing social networks in a way that purposefully increases the number of samples needed to reproduce the population, with no population listing being required—however, this sacrifices generalizability.

With respect to the analytical approach, probability samples are more closely associated with quantitative deductive research focused on theory testing, prevalence estimation, and statistical analysis, which is possible due to the intrinsic mathematical credibility of probabilistic samples. Therefore, nonprobability methods are ideal for qualitative inductive research, which aims to explore phenomena, develop theories, or construct meanings from the subjects—an in-depth understanding the experiences of information-rich participants selected purposefully to shed light on the phenomenon.

These features indicate the natural connections with the specific types of designs. In addition to extensive surveys, controlled experiments, and epidemiological studies, probability sampling with statistical claims also affects populations and robust generalization. Nevertheless, flexible nonprobability methods are better suited to analyzing natural phenomena where grounded theory development takes a case-based inductive view, using theoretical sampling and iterative methods. Well-integrated quantitative and qualitative research is the best approach for mixed methods research, which applies factors such as nonprobability and probability approaches, attaining the optimal use of resources that can benefit from the strengths from the other strands. Probability sampling forms a basis for representative groups, whereas nonprobability sampling aims to explore the experiences of these groups in more detail.

Weighing these key dimensions makes several principles clear. When researching inferences about a population, probability sampling is the best. It supports generalization, which is mathematical through its randomness. In qualitative research involving theory building, nonprobability purposive sampling

Sampling, Generalizability, and Reliability

is more applicable because it emphasizes enlightening participants. There is no universal best way to sample a target population. There is a need to conduct sampling in line with the purpose and approach of the research.

Mixed methods research can benefit from the advantages of both techniques. Sampling using probabilistic methods involves a very large preparation cost but can guarantee generalizability. Nonprobability is more expedient, but this method is particularistic. Nonprobability sampling is a tool that can be used for exploratory purposes and can help define the area for subsequent probability sampling.

SAMPLING IN QUANTITATIVE RESEARCH

Choosing an appropriate sample size is one of the most essential decisions in developing rigorous quantitative research. Sample size influences statistical strength, the detection of significant impacts, and the generalizability/stability of outcomes (Delice, 2010). In this section, several main points are presented, including which of these applied linguistics researchers should consider when selecting the best sample size for quantitative studies.

Confidence Level

First, the sample can be determined with the help of confidence levels. The confidence level shows the probability of the sample's results representing the population values guided by some margin of error. Our expected levels are 90%, 95%, or 99%. The higher confidence levels call for large random samples to increase the chance of the characteristics of the population being within the estimated ranges. Applied linguistics researchers should evaluate the confidence level to guarantee that any claim made is sufficiently plausible.

Margin of Error

The way the acceptable margin of error affects the sample size is also worth mentioning. The margin of error signifies how "good" or "exact" the correlation between the estimated sample statistics and original population parameters is. The narrower the acceptable deviation, the larger the required sample size. Hence, when estimating the average reading achievement scores at a margin of error of ± 3 points, more participants need to be included than those with a margin of error of ± 5 points. Thus, the accuracy of results improves with more data, while at the same time greater precision requires more data. Hence, balancing rigour with feasibility is one of the main issues that researchers have to address.

Population size

Moreover, the very nature of the audience comes into play here. The need for larger volumes of listeners necessitates a larger sample size to yield coverage for the entire population. Furthermore, more diverse participant groups within the target population require larger samples. The sample should represent heterogeneous socioeconomic classes not only by a simple list of geographic divisions. The size of the assessment also determines needs. Research looking for learning outcomes across classrooms may only

need to sample selected classes from available classes. However, studies that build data at the individual learner level call for more substantial numbers.

Power Analysis

In the end, the power analysis will provide a formal method to match the necessary sample size based on the presumed elements of the study. Critical components of power analysis, such as the effect's scope, the power level desired by the researcher, the number of variables and comparisons, the significance level, and the directionality of hypotheses, are involved. Power analysis utilizes these drivers to obtain the necessary data with the smallest sample that can statistically detect the proposed hypothesized effects at the target power and error level. Conducting a priori power analysis helps prevent sampling too narrowly because it meets the need to know the ultimate sample size needed.

Sampling Bias and How to Minimize it

The process only produces sound, stable results when the sample size is sufficient. A statistical power deficit due to an overly small sample size makes finding a natural effect harder and increases the probability of false negatives. The inexactness of concepts jeopardizes their specificity, thus undermining the chance to generalize. In applied linguistics research, underpowered designs, as such, are observable in experimental interventions being conducted with no significant difference in language acquisition outcome, simply because subject groups were not large enough and not because of ineffective treatment.

Hence, a practitioner of this science must strike the right balance between highly informed precision and logical feasibility when determining the number of participants needed for a study. Some general principles can be followed. The descriptive statistics of a minimum of 30 participants follow a normal distribution and are mainly treated as arithmetic. Consequently, the inflation factor will be more stable for larger samples. Correlational analysis requires 50 to 100 participants in different sets of samples to detect mean effects. Experimental designs with one subject per group usually need fewer participants than between-group designs, but more measures need to be made per individual.

Although probability sampling strengthens the mathematical advantages of its representative nature, measures should be taken to decrease sampling biases that can undermine proper representation. Additionally, problem-oriented examples shed light on probability methods in the specific area of applied linguistics where these techniques are used. Despite underpinning randomness, probability sampling remains vulnerable to skewed data if proper precautions are not taken.

A 100% sampling frame with no errors that passes the cross-checking and eligibility criteria can be assured by using multiple membership lists. The data for segments of the missing population need to be more accurate. The sample selection must first stratify the population based on the main criteria before the sampling proportions per stratum can be determined. This ensures that the dominant groups do not hijack the systems. The recruitment procedures are similar when screening groups for intervention studies. The process of differentiation and conditional participation invalidates comparisons. Survey response rates are developed, and a nonresponse bias is mitigated by balancing incentives, reminders, and alternative completion options. When considering poststratification weighting adjustments, the sample is adjusted to rebalance the subgroups where the demographics are skewed. Systematic randomization of sample points in field observations or spatial sampling, which minimizes any inherent exceptions to which you are subjected, is subsequently performed (Psaty & Prentice, 2010).

SAMPLING STRATEGIES USED IN RECENT APPLIED LINGUISTICS RESEARCH

DeKeyser et al. (2010) compared the effects of studying abroad on university students who were learning Spanish or French. The researchers randomly selected 94 students from the university records of language learners enrolled in the courses who were balanced in terms of proficiency at the beginning of the course. They were divided equally into one semester abroad and one semester at home (half assignment). Pre and post-semester oral and written skills tests demonstrated significant improvements only among the students who went abroad with a controversial group assignment.

The research by Dawadi et al. (2021), consisting of a survey of a random sample of 533 English teachers from a national registry, looked at the perceptions of English-only policies. Proportionality was achieved in selecting representatives from different regions, ages, and genders through stratified random sampling. The quantified data implied that the teachers were mainly hostile to English immersion policies. Randomization allowed generalization.

In Hung's (2019) quasi-experimental study, the assignment of participants into groups was not absolutely based on randomness. Instead, to increase research reliability, the researcher used the pretest results to ensure that the two groups (control and experimental) were generally at the comparable level before the interventions. In fact, students were assigned into pairs with comparable pretest results before the students in each pair were randomly assigned into the groups.

Gentles et al. (2015) followed and examined spelling development among 250 urban and rural elementary school students through clustered sampling. Urban schools were sampled first, followed by rural schools. This investigation shed light on regional factors that facilitate spelling acquisition, realized through probability methods.

Probability sampling provides applied linguists with valid and systematic tools, generating representative samples and universally acceptable results if handled correctly. Studies benefit from techniques such as randomization, stratification, multistage clustering, and proportional allocation in unbiased sampling while enabling inferences based on probability. This type of research evidence shows the flexibility of probability principles in such experimental, survey, and observational designs of language research (Khany & Tazik, 2017). Therefore, they can quantify the trends of a larger population. Once observer bias precautions are taken, probability sampling can yield valid conclusions relevant to the general population in applied linguistics.

SAMPLING IN QUALITATIVE RESEARCH

However, in contrast to quantitative studies, qualitative studies often employ nonprobability purposive sampling strategies when selecting participants (Gentles et al., 2015). These skills provide profound insight consistent with the qualitative goals of reflecting social reality, identifying themes, and creating theories grounded in life experiences.

Maximum variation sampling – A heterogeneous combined set of participants whose resemblance could be identified from common core patterns is selected. For example, deliberately grouping English learners with different proficiency levels, ages, and cultural backgrounds can meet many everyday needs.

Critical case sampling or atypical sampling – Investigating “unusual” cases to explore the influential factors. Inquiry into where students, rapid or slow in language skills, gain information about adjuncts.

Intensity sampling—gathering the most illustrative or vivid examples of the phenomenon in question and providing a detailed demonstration of intricate processes. Examining the talented bilingual children can clearly demonstrate optimal dual language development.

Homogeneous approach – individuals in one group having similar characteristics. For instance, looking at learner-specific experiences only applicable to Somali English learners, where the sampled people revealed Somali-specific experiences that could be faced by other populations.

Sample Size Considerations

They aim to provide optimal research subjects rather than being concerned with the possibility of representativeness. Scholars and researchers in linguistics suggest an array of solutions. Gándara investigated some outstanding Mexican-heritage bilingual students to craft a theory based on the promotive elements that they had that enabled their unexpected success despite the disadvantages they were confronted with. Dixon shifted the attention to the learning of English by Muslim immigrant women to show that it had particular features, applicable to any other field.

The sample sizes for qualitative research are usually smaller than those for quantitative studies, and concepts, including saturation makeup, are needed. The threshold beyond which the additional cases gathered provide very little additional information is known as saturation, which has been estimated to be approximately 30-50 participants for phenomena that are not homogenous. However, the level of investigation should exceed the quantity.

Although nonprobability sampling hinders generalizing the results, it has flexibility and efficiency advantages in recruiting the richest sources of information. These methods are consistent with constructivist ideals, portrayed by the objective presentation of lived reality.

Specific Issues for Sampling in Language Education Research

The sampling process is particularly relevant for applied linguistics and language education research. This enables us to randomly select a sample of individuals from a target population to generalize the whole population. To this end, this process may entail unique problems that call for critical thinking and particular strategies. In this section, we will discuss different aspects of sampling in applied linguistics and language education, covering the definition of the target population, the impacts of accessibility and feasibility, ethical obligations for vulnerable groups, and culturally sensitive sampling.

Challenges and Strategies for Defining the Target Population

Determining the target population is a crucial step in the sampling process, as it establishes the focus of the research and its applicability to the broader population. The target population in applied linguistics and language education can be heterogeneous and intricate, comprising those with different language proficiency levels, cultural backgrounds, ages, and educational contexts. The first and foremost obstacle is that the population of language learners comprises various individuals with different abilities and needs. Language learners may come from different first language backgrounds, study for different purposes, have varying motivations, use various strategies, and have different exposure levels to the target language. In addition, the target population might include people of various educational levels, ranging from primary to tertiary, along with adults in professional or community-based courses.

Sampling, Generalizability, and Reliability

This means that researchers should specify the characteristics and limits of the research subjects in a precise manner when evaluating the situation of the study in a particular context. This can be described as specifying factors such as language education level, age range, educational setting, and other similar demographic or linguistic characteristics. Moreover, researchers should contemplate the affordability and practicability of the scope of action they aim for. In some cases, the target population might be too widely distributed across an area or be difficult to access due to logistical or practical constraints. Researchers might have to employ different sampling methods, such as cluster sampling or multistage sampling, to maintain representative coverage and simultaneously reduce the risk of bias.

Accessibility and Feasibility Issues for Sampling Language Learners

Identifying language learners for implementation may be associated with accessibility and feasibility issues that must be considered and incorporated into strategic plans. These issues may arise for different reasons, such as language learner location, institutional or organizational barriers, and data collection sampling issues. One primary obstacle that researchers of language learners face is their geographical spread, especially in the case of learners in different places such as regions, countries, or even continents (Khany & Tazik, 2017). This dispersion may need to be addressed to achieve representativeness of the study sample and necessitate the use of multistage or cluster sampling techniques to guarantee coverage of diverse regions and decrease travel expenses and logistical problems.

The next barrier is the availability of language learners in the educational and organizational setup. Institutional or bureaucratic obstacles might prevent researchers from accessing learners of language in schools, universities, or language learning centers. These could involve obtaining the required approvals, carrying out administrative procedures, and liaising with gatekeepers, institutions, and decision-makers. Additionally, the accessibility of valid sampling frames may be a significant problem in applied linguistics and language education research. A sampling frame is a list or database that includes everybody from the target population from which the sample is drawn. In some instances, there may be no such detailed list or sources, or they may need to be better maintained or updated rendering them incomplete or incorrect, which makes it difficult to obtain a good representative sample (Khany & Tazik, 2017).

To overcome the possible problems regarding the accessibility and feasibility of the research, researchers need to employ methods such as building relationships with different educational institutions, language learning programs, and community organizations. Such alliances make the recruitment of participants faster and thus optimize sampling. Furthermore, researchers could use other sampling methods, such as snowball sampling or convenience sampling, if the record is incomplete or if it is not easy to obtain.

ETHICAL CONSIDERATIONS AND VULNERABLE POPULATIONS

Applied linguistics and language education research often involves working with vulnerable populations, such as children, individuals with disabilities, or marginalized communities. These populations may be at greater risk of exploitation, harm, or undue influence and thus require heightened ethical considerations and safeguards throughout the research process, including the sampling stage. One of the primary ethical concerns when sampling vulnerable populations is ensuring voluntary and informed consent. Researchers must take extra measures to ensure that participants, or their legal guardians in the case of minors or individuals with cognitive impairments, fully understand the research's purpose, procedures,

potential risks, and benefits (Thompson et al., 2021). This may involve using age-appropriate language, providing information in multiple formats (e.g., written, verbal, visual), and allowing sufficient time for participants to make an informed decision.

Another important ethical consideration is the protection of privacy and confidentiality. Researchers must implement robust data management and security protocols to safeguard sensitive personal information and maintain the anonymity of participants, especially when working with marginalized or stigmatized groups. Furthermore, researchers should be mindful of potential power imbalances between themselves and vulnerable participants. These power imbalances can arise from age, socioeconomic status, language proficiency, or cultural background (Thompson et al., 2021). Researchers should strive to create a safe and inclusive environment that empowers participants and minimizes the potential for coercion or undue influence. To address these ethical considerations, researchers should seek guidance from institutional review boards (IRBs) or research ethics committees and follow established protocols and guidelines specific to their field and populations.

CONCLUSION

Probability sampling is needed for quantitative research to facilitate the objectives of statistical analysis and the procedures of deductive inquiry. Qualitative research approaches are mostly culturally based and are constructed in such a way that each experience of life is captured. Combined approaches integrate probability and purposive methods to combine qualitative and quantitative strengths. Sampling size determination is based on the trade-off between rigor and feasibility, which is, in turn, guided by issues such as confidence levels, power analysis, and saturation. In applied linguistics research, special considerations arise. Identifying undisclosed or limited access target populations requires cultural brokerage and creative mapping approaches. Creating a representative sample that accurately reflects hard-to-reach language learners might require technical innovations such as mobile labs or compensation. Ethical obligations concerning vulnerable persons should be further enhanced to ensure proper cultural treatment, informed consent, privacy, an anti-deficit approach, and the empowerment of the participants.

REFERENCES

- Ansarifar, A., Shahriari, H., & Pishghadam, R. (2018). Phrasal complexity in academic writing: A comparison of abstracts written by graduate students and expert writers in applied linguistics. *Journal of English for Academic Purposes, 31*, 58–71. doi:10.1016/j.jeap.2017.12.008
- Buchstaller, I., & Khattab, G. (2013). *Population samples*. In by R. J. Podesva & D. Sharma, *Research methods in linguistics*. CUP.
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: Complex or simple? Research case examples. *Journal of Research in Nursing, 25*(8), 652–661. doi:10.1177/1744987120927206
- Christensen, L. B., Johnson, B., & Turner, L. A. (2011). *Research methods, design, and analysis*. Pearson.

Sampling, Generalizability, and Reliability

- Cooksey, R., McDonald, G., Cooksey, R., & McDonald, G. (2019). How do I manage the sampling process? In R. Cooksey & G. McDonald, *Surviving and thriving in postgraduate research* (pp. 827-894). Springer.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: qualitative, quantitative, and mixed methods approaches*. SAGE Publications.
- Dawadi, S., Shrestha, S., & Giri, R. A. (2021). Mixed-methods research: A discussion on its types, challenges, and criticisms. *Journal of Practical Studies in Education*, 2(2), 25–36. doi:10.46809/jpse.v2i2.20
- Dekeyser, R., Alfi-Shabtay, I., & Ravid, D. (2010). Cross-linguistic evidence for the nature of age effects in second language acquisition. *Applied Psycholinguistics*, 31(3), 413–438. doi:10.1017/S0142716410000056
- Delice, A. (2010). The sampling issues in quantitative research. *Educational Sciences: Theory & Practice*, 10(4), 2001–2018.
- Etikan, I., Alkassim, R., & Abubakar, S. (2016). Comparison of snowball sampling and sequential sampling technique. *Biometrics and Biostatistics International Journal*, 3(1), 55. doi:10.15406/bbij.2016.03.00055
- Gentles, S. J., Charles, C., Ploeg, J., & McKibbin, K. A. (2015). Sampling in qualitative research: Insights from an overview of the methods literature. *The Qualitative Report*, 20(11), 1772–1789. doi:10.46743/2160-3715/2015.2373
- Hung, B. P. (2019). A Cognitive linguistic approach to teaching English idioms to EFL students: Experimental results. *3L: Language, Linguistics. Literature*, 25(2), 113–126. doi:10.17576/3L-2019-2502-09
- Khany, R., & Tazik, K. (2017). 40 Years of applied linguistics: Investigating content areas, research methods, and statistical techniques. *Canadian Journal of Applied Linguistics*, 40(3), 316–332.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. doi:10.1177/001316447003000308
- Levy, P. S., & Lemeshow, S. (2013). *Sampling of populations: methods and applications*. John Wiley & Sons.
- Mackey, A., & Gass, S. M. (2015). *Second language research: Methodology and design*. Routledge.
- Miestamo, M., Bakker, D., & Arppe, A. (2016). Sampling for variety. *Linguistic Typology*, 20(2), 233–296. doi:10.1515/lingty-2016-0006
- Noor, S., Tajik, O., & Golzar, J. (2022). Simple random sampling. *International Journal of Education & Language Studies*, 1(2), 78–82. doi:10.22034/ijels.2022.162982
- Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice*. Sage publications.
- Podesva, R. J., & Sharma, D. (2014). *Research methods in linguistics*. CUP.

- Psaty, B. M., & Prentice, R. L. (2010). Minimizing bias in randomized trials: The importance of blinding. *Journal of the American Medical Association*, *304*(7), 793–794. doi:10.1001/jama.2010.1161 PMID:20716744
- Salkind, N., & Rainwater, T. (2009). *Exploring research* (7th ed.).
- Scholfield, P. (1991). Statistics in linguistics. *Annual Review of Anthropology*, *20*(1), 377–393. doi:10.1146/annurev.an.20.100191.002113
- Shimizu, I. (2014). *Multistage sampling*. *Wiley StatsRef: Statistics Reference Online*. Wiley.
- Singh, S. (2003). *Advanced Sampling Theory with Applications: How Michael 'selected' Amy* (Vol. 1). Springer.
- Streeter, V. J. (1969). *Homogeneity in a sample of technical English*. University of Michigan.
- Szyska, M., & Lintunen, P. (2023). Zooming into the L2 speech fluency markers of anxious and non-anxious advanced learners - an extreme case sampling report. *Research in Language*, *21*(4), 357–376. doi:10.18778/1731-7533.21.4.02
- Thompson, A., Stringfellow, L., Maclean, M., & Nazzal, A. (2021). Ethical considerations and challenges for using digital ethnography to research vulnerable populations. *Journal of Business Research*, *124*, 676–683. doi:10.1016/j.jbusres.2020.02.025
- Thompson, S. K. (2012). *Sampling* (3rd ed.). John Wiley & Sons.
- Vehovar, V., Toepoel, V., & Steinmetz, S. (2016). Non-probability sampling. In C. Wolf, D. Joye, T. Smith, & Y. C. Fu (Eds.), *The SAGE handbook of survey methodology* (pp. 329–345). SAGE Publications Ltd., doi:10.4135/9781473957893.n22
- Whittemore, A. S. (1997). Multistage sampling designs and estimating equations. *Journal of the Royal Statistical Society. Series B, Statistical Methodology*, *59*(3), 589–602. doi:10.1111/1467-9868.00084
- Wild, H., Kyröläinen, A.-J., & Kuperman, V. (2022). How representative are student convenience samples? A study of literacy and numeracy skills in 32 countries. *PLoS One*, *17*(7), e0271191. doi:10.1371/journal.pone.0271191
- Wu, C., & Thompson, M. E. (2020). *Sampling theory and practice*. Springer.

ADDITIONAL READINGS

- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publishing.
- Khoa, B. T., Hung, B. P., & Hejsalem-Brahmi, M. (2023). Qualitative research in social sciences: Data collection, data analysis and report writing. *International Journal of Public Sector Performance Management*, *12*(1-2), 187–209. <https://doi.org/10.1504/IJPSPM.2023.132247>

Sampling, Generalizability, and Reliability

Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd revised edition). New Age International Publisher.

Walliman, N. (2011). *Research methods: The basics*. Routledge.

KEY TERMS AND DEFINITIONS

Population: The total mass or group of individuals whose deductions are centralized in the study. Moreover, it is often called “the target population.” Spanish-speaking English learners in US public high schools are one such example.

Sampling frame: A complete list of the population consisting of all the individuals who will be approached and selected. Researchers can locate and identify potential participants with access to and understanding research. Among them, district enrollment records are included.

Sampling procedure: A process in which the sample is drawn from the population. It may involve inquiries such as probability/random or nonprobability purposive techniques.

Chapter 9

Ethnography

Rizgar Qasim Mahmood

 <https://orcid.org/0000-0002-5987-8884>

The University of Wollongong, Australia

ABSTRACT

This chapter offers an exploration of ethnography, a key methodological approach in contemporary social research. Beginning with its origins and principles, the chapter outlines the ethnographic research process, including data collection and analysis methods. Practical examples from applied linguistics and L2 education illustrate its application. The chapter delves into the nuanced aspects of ethnography, enhancing understanding of its investigative potential. It also discusses the relationship between ethnography and theories, along with ethical considerations in research. Overall, the chapter provides a comprehensive overview and practical insights for engaging with ethnographic research in academic domains.

INTRODUCTION

Qualitative research can serve as methodology for comprehending social reality and finding applications across disciplines (Coffey, 2018). Within the social and behavioural sciences, qualitative research approaches are commonly used to investigate and examine social phenomena. They aim to show the meanings individuals attribute to activities, situations, events, or artefacts, fostering a profound understanding of specific aspects of social life. Additionally, qualitative research attempts to provide “thick descriptions” in naturalistic settings (Fetterman, 2010, p. 124). It is crucial to explore novel domains and establish links by highlighting connections between individuals or groups and the broader institutional and cultural contexts (Denzin & Lincoln, 2017; Leavy, 2020; Liamputtong, 2020). Furthermore, as Erickson (2017) stated, qualitative inquiry aims to uncover and narratively depict the activities of specific individuals in their daily existence and show the significance these actions hold for them. One of the most frequently utilised methodological approaches within social studies is ethnography which meticulously investigates and explores the activities of individuals or groups within their authentic contexts (Coffey, 2018; Eriksson & Kovalainen, 2008; Hammersley & Atkinson, 2019).

DOI: 10.4018/979-8-3693-2603-9.ch009

Ethnography

Ethnography identifies categories of meaning in the world, such as types of individuals, actions, beliefs, and interests. Ethnographers put much emphasis on showing variations in the forms in a meaningful pattern. The focus is on understanding the nuances that contribute to the interpretation of actions and experiences within the context of qualitative research. Furthermore, Cockerham (2013, pp. 25-26) stated that “qualitative research provides some of the most insightful data available on social relationships and situations. It puts a human face on what would otherwise be only a narrative of numbers.”

In terms of applied linguistics and L2 education, the primary emphasis is on the examination of language in practical contexts, forging connections between our comprehension of languages and their real-world applications. Practitioners in applied linguistics engage in varied research domains, encompassing second language acquisition (SLA), teaching English to speakers of other languages (TESOL), workplace communication, language planning and policy, as well as language identity and gender, among others. Moreover, numerous applied linguists extend their expertise to closely associated fields such as education, psychology, sociology, and anthropology (Conrad et al., 2020; Heigham & Croker, 2009). In this regard, ethnography is one of the most commonly used qualitative research methodologies in applied linguistics (Heigham & Sakui, 2009). It can be inferred that qualitative research plays an essential role in the applied linguistics field and L2 education, and ethnography is one of the unique types because, as stated by Mackey and Gass (2021), ethnographic research proves particularly advantageous in situations where there is insufficient understanding or knowledge about a given context. Furthermore, in the field of applied linguistics, researchers often employ an ethnographic approach to examine language usage within familiar community and institutional settings, diverging from the conventional ethnographic focus on unfamiliar or exotic environments. Given the interdisciplinary nature of applied linguistics, many researchers collaborate across fields such as healthcare, workplace studies, and various organisational contexts. Consequently, ethnography proves to be a fitting approach within applied linguistics, offering an effective methodology for investigations spanning multiple disciplines (Lew et al., 2018; Starfield, 2015). Therefore, the following sections are focused on this type of qualitative research methodology. Therefore, this chapter presents a systematic approach to conducting qualitative research using ethnography, guiding readers through each step. Additionally, it furnishes ample information on the origins of ethnography and its practical implementation in research, supported by relevant examples.

THE ORIGIN OF ETHNOGRAPHY

The term “ethnography” is employed in the social sciences and humanities to characterise a social research methodology, or more precisely, a collection of methodological approaches to comprehend and interpret cultural and social realms (Hammersley & Atkinson, 2019). In a literal sense, ethnography denotes the composition or writing (graphy) of people (ethno) (Jackson, 2015). The ethnographic research of examining individuals within their social and cultural milieu has a rich historical lineage, primarily attributed to the endeavours of social and cultural anthropologists during the late nineteenth and early twentieth centuries. During this period, scholars in anthropological circles turned their attention to the in-depth exploration and comprehension of ‘other’ societies through immersive, firsthand engagement. Notably, figures like the Polish anthropologist Bronislaw Malinowski and the English social anthropologist Alfred Radcliffe-Brown, in the first quarter of the twentieth century, played pivotal roles in advancing the concept of immersion and engagement within a specific setting as a means to gain a profound understanding of the human condition (Coffey, 2018; Hammersley & Atkinson, 2019; Heigham & Sakui, 2009; Watson-

Gegeo, 1988). The attribution of the term ‘ethnography’ to academic discourse is credited to August Ludwig von Schlözer, a German historian specialising in Russian history and an assistant to Müller, a German-born historian, also known as Fyodor Ivanovich Miller, at the Academy, along with Christoph Wilhelm Jacob Gatterer, a Göttingen-based historian with a focus on natural history (Wei, 2023).

A frequently referenced definition in the applied linguistics domain is encapsulated in the statement: “the study of people’s behaviour in naturally occurring, ongoing settings, with a focus on the cultural interpretation of behaviour” (Watson-Gegeo, 1988, p. 576). In the realm of ethnographic studies, researchers delve into cultures to understand “what people do (behaviours), what they say (language), the potential tension between what they do and ought to do, and what they make and use, such as artefacts” (Spradley, 1980, as cited in Creswell (2007, p. 71), encompassing a wide array of elements, including standardised test scores, photos, handouts, and surveys.

ETHNOGRAPHY AS A METHODOLOGICAL PARADIGM

Ethnography serves as research methodology rooted in empiricism and naturalism, as emphasised by Hammersley and Atkinson (2019). This approach collectively underscores the importance of gathering data in naturalistic social settings. In contrast to positivistic inquiry, characteristics of other forms of qualitative research, ethnography diverges by avoiding hypotheses and hypothesis testing. Instead, it adopts an exploratory stance, with the ethnographer delving into the field to investigate cultural groups or specific social interactions. Unlike traditional research, the research questions are not predetermined but evolve through an inductive and iterative process, wherein thick description contributes to the formulation of research questions during the study of social phenomena (Reeves et al., 2013; Watson-Gegeo, 1988).

Furthermore, ethnography is marked by fieldwork, requiring active and prolonged engagement of the ethnographer within the local context under examination. While traditionally associated with discrete and distant locations, the evolution of ethnography across academic disciplines has expanded fieldwork to various settings with diverse boundaries and proximities to the researcher (Denzin & Lincoln, 2017).

In applied linguistics, the primary advantage of ethnographic research, distinguishing it from other research methodologies, is its ability to offer a comprehensive and profound understanding of a particular culture. Unlike other methodologies, ethnography allows researchers to delve deeply into describing and interpreting a group’s cultural behaviour, including communicative behaviour, a level of insight rarely attainable with alternative methods (Mackey & Gass, 2021). This depth is facilitated by the fluid and flexible nature of ethnographic studies, where the research question remains dynamic, subject to continual revision and refinement as new knowledge emerges during the research process (Mackey & Gass, 2021). Additionally, the unique feature of conducting ethnographic research from within a target community enables the direct observation of behaviour as it unfolds, eliminating reliance on individuals’ accounts of their past or anticipated actions (Heigham & Sakui, 2009).

In this situation (i.e., during ethnographic research), the participants are expected to be in their natural and normal status in the field, whether or not researchers are present (Burns, 2000). This provides an accurate description of a given situation or culture. Heath’s (1983) decade-long examination of two cultural communities in the southeastern United States provides a compelling example of the profound cultural insights achievable through ethnographic research. The study focused on a black working-class community and a white working-class community, revealing the pivotal role of language in shaping children’s socialisation and, consequently, their disadvantage in a school environment shaped by white

Ethnography

culture. To attain such in-depth cultural illumination, considerable time was invested in studying the communities, actively participating in their practices, observing daily life, listening to narratives, and meticulously examining related artefacts. Adopting a broad perspective that considered sociocultural and political factors, she continuously analysed her data throughout the study, allowing her findings to guide and redirect her research. This approach led to significant contributions extending beyond her specific field of study.

Another compelling factor favouring the adoption of ethnography is its potential to reach a broad audience through diverse presentation formats. Unlike other research types typically confined to conventional written structures, ethnographies can take various forms, such as narratives, novels, dramas, and documentaries, in addition to traditional research articles. The versatility in presentation caters to different preferences and engages a wider audience.

In contrast to the often-abstract nature of quantitative research reports, which may be off-putting to practitioners who outnumber scholars or researchers in the field, ethnographic studies offer a more accessible and relatable approach. Teachers, in particular, find the “stories” conveyed in ethnographies easy to comprehend, making these reports more inclusive and understandable for a larger readership. Consequently, ethnography holds the potential for broader impact and dissemination within both academic and practitioner communities (Heigham & Sakui, 2009). It can be inferred that conducting research utilising ethnography has the potential to yield exceptionally rich data and provide empirical, solid evidence. This approach allows for investigating issues within an authentic context, contributing to the depth and authenticity of the gathered information. The immersive nature of ethnography enables researchers to capture the nuances of real-life situations, offering a robust foundation for drawing conclusions and making evidence-based assertions.

KEY CONCEPTS IN ETHNOGRAPHY

Traditionally, ethnography is characterised as both a fieldwork and a writing approach. In the role of fieldworkers, ethnographers actively engage in the lives of the subjects they study, meticulously observing and documenting people and events. This involvement includes tasks such as taking detailed field notes, conducting interviews, and employing various methods to capture the intricacies of the studied community or culture (Campbell & Lassiter, 2014). Therefore, several key concepts are involved in ethnographic research. O’Reilly (2009) outlines the key concepts and their definitions in ethnographic research (see Table 1).

PRINCIPLES OF ETHNOGRAPHY

Ethnography has evolved from a diverse range of perspectives and theoretical positions, leading to varied approaches in its development. Despite this diversity, ethnographers generally adhere to certain principles and practices, acknowledging the method’s flexibility in incorporating various methods for data collection, analysis, and representation. While recognising the multiplicity of approaches, most ethnographers endorse common principles and practices that underpin the essence of ethnographic research.

The foundational principle in ethnography is a deep appreciation for the significance of context when interpreting a culture or social environment (i.e., understanding). Social actors, events, actions,

Table 1. Key concepts in ethnographic research

No.	Concept	Definition
1.	Access	The researcher's ability to enter and engage with the field or community under study.
2.	Analysis	The process of interpreting and making sense of ethnographic data often involves coding and thematic analysis.
3.	Asking Questions	Inquiry into the beliefs, behaviours, and practices of participants, is fundamental to ethnographic research.
4.	Case Study	In-depth examination of a single case or group to understand social phenomena within a specific context.
5.	Coding	Organising and categorising data into meaningful units for analysis, often using labels or codes.
6.	Covert	Conducting research without the explicit knowledge or consent of participants is often used in studies where overt observation may influence behaviour.
7.	Critical Ethnography	Approach to ethnographic research that examines power relations, inequality, and social justice issues.
8.	Ethics	Moral principles and guidelines governing the conduct of research, including informed consent and confidentiality.
9.	Fieldnotes	Written records of observations, interactions, and reflections made by the researcher during fieldwork.
10.	Focus Groups and Group Discussions	Methods for collecting data involving facilitated group discussions among participants.
11.	Generalization	Extending research findings from a specific case or group to a broader population or context.
12.	Going 'Native'	Immersing oneself deeply into the culture or community under study often blurs the line between researcher and participant.
13.	Holism	Emphasises the interconnectedness of various aspects of culture and society, advocating for a comprehensive understanding of social phenomena.
14.	Inductive and Deductive	Inductive involves deriving general principles from specific observations, while deductive involves testing hypotheses derived from theory.
15.	Insider Ethnographies	Research conducted by individuals who are members of the community or culture under study.
16.	Interpretivism	The philosophical perspective emphasises subjective understanding and interpretation of social phenomena.
17.	Interviews and Conversations	Methods for collecting data through structured or semi-structured interviews and informal conversations with participants.
18.	Key Informants and Gatekeepers	Individuals who provide access to the field or community under study and offer valuable insights and information.
19.	Participant Observation	Method involves the researcher's active participation in and observation of the activities and interactions of participants.
20.	Participant Observer Oxymoron	The tension between participating in and observing a social setting reflects the dual role of the ethnographer.
21.	Positivism	The philosophical perspective emphasises empirical observation, measurement, and the search for universal laws in social phenomena.
22.	Rapport	The establishment of trust, empathy, and mutual understanding between the researcher and participants.
23.	Realism	The philosophical perspective posits an objective reality external to human consciousness understood through empirical investigation.
24.	Reflexivity	Reflexivity typically involves scrutinising one's own beliefs, judgments, and actions throughout the research process to assess their potential influence on the study's outcomes.
25.	Sampling	The selection of participants or cases for the study is aimed at representing the diversity of the population or phenomena under investigation.
26.	Time	Recognising the temporal dimension of social phenomena and how they change over time.
27.	Virtual Ethnography	Study of online communities and digital spaces using ethnographic approaches adapted for online environments.
28.	Visual Ethnography	Utilising visual methods such as photography or videography to document and analyse social phenomena.
29.	Writing	The process of presenting ethnographic findings in written form involves synthesising data, analysis, and interpretation.

and interactions must be comprehended about the cultural context in which they unfold, encompassing attention to local circumstances as well as historical, spatial, temporal, and organisational frames. This involves acknowledging the complexity of settings and understanding that premature assumptions about importance should be avoided. Ethnographers strive to develop a nuanced understanding of the context in which actions and expressions take place, recognising that the significance of certain elements may

Ethnography

only become clear retrospectively. It is crucial to grasp that, as social researchers or ethnographers, achieving a complete or exhaustive account of a setting is an unattainable goal. Instead, by embracing the complexity of a setting, ethnographers can selectively observe and analyse, aiming to produce a coherent account that is inherently partial. This commitment to holism, situating specific aspects within a broader context while acknowledging the impossibility of a complete picture constitutes the core of the ethnographic endeavour (Atkinson, 2007; Coffey, 2018; Eriksson & Kovalainen, 2008).

Another fundamental principle in the ethnographic approach is naturalism. According to this perspective, the goal of research is to capture the objective nature of naturally occurring human action (Hammersley, 1995). The argument posits that this can only be achieved through intensive, firsthand contact, rather than relying on actions in experimental or artificial settings, or on what people express in interviews. Ethnographers, guided by naturalism, conduct their research in settings that exist independently of the researcher and aim to elucidate social events and processes by considering their relationship to the surrounding context. To adhere to naturalism, objective description entails minimising the researcher's influence on the activities of the individuals under study (Eriksson & Kovalainen, 2008; Hammersley & Atkinson, 2019).

The third guiding principle in ethnography is induction. Ethnographers advocate for inductive and discovery-based research processes that prioritise “authentic story” (Fetterman, 2010). The rationale behind this principle is that if researchers approach a community with preconceived theoretical models, concepts, or propositions, they may overlook the distinctive and contextual nature of that community. Therefore, ethnographers usually start their research with a broad interest in a community, group of people, type of social action, or practical problem. Then, they refine the research problem carefully, and sometimes they even change some aspects, as the project progresses. In the same manner, theoretical ideas develop throughout the research process, and they are viewed not as starting points but as valuable outcomes derived from the exploration of the community or social setting (Eriksson & Kovalainen, 2008; Hammersley & Atkinson, 2019).

CONDUCTING ETHNOGRAPHIC RESEARCH

Ethnographic research involves the identification of a specific problem or topic of interest by the researcher or ethnographer, then, they set the course for the entire research process. The selected research problem not only shapes the research design, but also encompasses other aspects such as budget, research tools, and findings presentation but also serves as a guiding force throughout the research (Fetterman, 2010; Hammersley & Atkinson, 2019). After defining the problem, the researchers start doing the fieldwork.

Fieldwork

Fieldwork stands out as the quintessential element in the design of any ethnographic research, exerting a profound influence on the overall approach. Classical ethnography often demands a substantial time commitment, ranging from six months to two years or more spent in the field. Characterised by an exploratory nature, fieldwork commences with a survey period, focusing on acquiring foundational knowledge such as the native language, kinship ties, census information, historical data, and the fundamental structure and function of the culture under investigation for the ensuing months (Fetterman, 2010). Furthermore, Ethnographers employ participant observation as a means to acquire a profound

understanding of the culture under scrutiny. These insights evolve gradually, shaped by the dynamics of social relationships within the field and through repeated analysis of various facets of the research sites. To effectively facilitate this ongoing process, ethnographers must master the skill of interacting with the individuals in the field and acquiring useful, reliable notes that capture the intricate details of events within their research contexts (Atkinson, 2019; Eriksson & Kovalainen, 2008; Heigham & Sakui, 2009).

The essence of fieldwork lies in the ethnographer's physical presence — the act of observing, posing seemingly simple yet insightful questions, and diligently recording observations and conversations. Subsequently, the ethnographer engages in a meticulous process of cross-checking, comparison, and triangulation (i.e., “the use of multiple methods, data collection strategies, and data sources to get a more complete picture of the topic under study and to cross-check information”) to validate the gathered information before it serves as the groundwork for building a knowledge base (Eriksson & Kovalainen, 2008; Gay et al., 2012, p. 435; Reeves et al., 2008).

Participant Observation

Participant observation emerges as a pivotal data collection method in ethnographic research, serving as a fundamental approach to understanding cultural practices and phenomena (Eriksson & Kovalainen, 2008; Leavy, 2020; Tusting, 2023). In this regard, Creese et al. (2008, p. 198) referred to participant observation as “a “core element of ethnography”. As defined by DeWalt and DeWalt (2011, p. 1), “a method in which a researcher takes part in the daily activities, rituals, interactions and events of a group of people as one of the means of learning the explicit and tacit aspects of their life routines and culture”. In the end, this stage is complemented by additional data sources, such as interviews and documents. At the same time, ethnographers maintain detailed field notes that document daily events, capturing both the occurrences and the perspectives of participants. In the initial stage, during the observations, ethnographers focus on a broad and open-ended collection of materials aimed at understanding the fundamental cultural rules and language at the research site. This stage serves as a crucial point for a more targeted investigation, helping the ethnographer to establish rapport with participants and evaluate the appropriateness of the original research objectives in the local context (Heigham & Sakui, 2009; Howitt & Cramer, 2020).

Participant observation is a key strategy used by ethnographers to gain important insights into cultural practices and phenomena (Coffey, 2018). These insights are influenced by the social relationships within the field and through repeated analysis of several aspects of the research sites. To maintain this process, ethnographers must acquire the skills to interact effectively with the individuals in the field and take comprehensive, reliable notes detailing various aspects of events within their research contexts. From field notes, the ethnographers constitute a substantial portion of the empirical data and form the basis upon which the research conclusions are drawn.

Role of Ethnographers

The role of the ethnographers and their engagement through participant observation becomes an essential aspect of the exploration of culture. The ethnographer's active presence in the field, coupled with the collection of comprehensive field notes, contributes to the in-depth insights and contextual understanding essential for the ethnographic activity. The immersion in the cultural context, facilitated by participant observation, aligns with the principles of naturalism, induction, and contextualisation. The ethnographer's role evolves encompassing both insider and outsider perspectives, as they navigate the aspects

Ethnography

of the research site, interact with participants, and document the notes that shape the cultural landscape (Campbell & Lassiter, 2014; Eriksson & Kovalainen, 2008; Wei, 2023). Bryman (2015) outlines the principal features of participant observation as follows:

Immersion in a Social Setting: The researcher is deeply involved in a specific social setting for an extended period. This setting can range from an informal social group to an organisation or a community.

Behavioural Observation: The researcher actively observes and studies the behaviours of the members within the chosen social setting.

Accurate Recording of Activity: A crucial aspect of participant observation is the meticulous recording of activities within the observed setting. This involves detailed and precise documentation.

Meaning Identification: The researcher aims to discern and comprehend the meanings attributed by the members of the observed setting to their social environment and the behaviours exhibited within that environment.

While the extent of immersion in the target culture may vary across studies, a crucial criterion is for the researcher to uphold both an emic (insider or participant perspective) and etic (outsider or researchers' perspective) position concurrently. Gradually adopting an emic stance involves learning and comprehending specific cultural practices and routines, actively participating in them, and acquiring familiarity with the jargon, and in certain instances, the language of the target culture. This approach enables the researcher to cultivate an insider's understanding and develop knowledge about the culture from within (Eriksson & Kovalainen, 2008; Heigham & Sakui, 2009).

Observer's Role

Certain observers can be characterised as outsiders with minimal involvement in the group dynamics, while others are fully integrated members of the group (Atkinson et al., 2007; Atkinson, 2019). Howitt and Cramer (2020) introduced a model of observation dimensions (see Figure 1). Accordingly, the observer can serve either as a participant or non-participant.

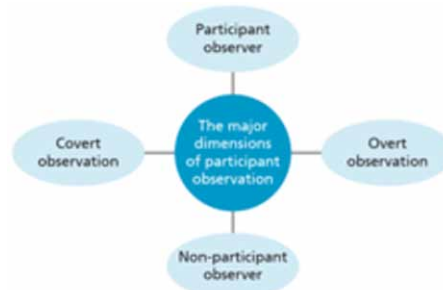
Ethnographic Interviews

In addition to observation, an ethnographic study may revolve around open-ended narrative or life history interviews, often referred to as "ethnographic interviews" (Brinkmann & Kvale, 2018; Coffey, 2018; Heyl, 2007; Leavy, 2020). In many cases, ethnographers enhance their insights gained from participant observation by engaging in interviews with individuals who can provide valuable perspectives on the researched setting or group. Conducting interviews with a diverse range of people at different stages of ethnographic research can be beneficial (Eriksson & Kovalainen, 2008).

In general, interviews prove particularly beneficial in specific scenarios, such as when selecting a research site, after completing participant observation, or when participants undergo significant changes of interest to the researcher. While participant observation yields information about actions and behaviours, interviews offer an opportunity to delve into how individuals personally reflect on their behaviour, circumstances, identities, and events. This aspect is valuable for gaining an insider's perspective (Eriksson & Kovalainen, 2008).

Establishing rapport with participants is a vital aspect of interviews. The most effective approach is to be a proficient listener, prioritising the act of listening and understanding over extensive talking and conversation (Hammersley & Atkinson, 2019). Demonstrating genuine interest in the participant and

Figure 1. Key aspects of participant observation
(Adapted from Howitt & Cramer, 2020, p. 383)



ensuring their social comfort take precedence. During the interview, it is vital to select a relaxing setting where the participant feels comfortable and can openly express themselves. Furthermore, it is important to talk to the participant that the interview contributes to a portion of the data. The ethnographer has to provide the participants with adequate information on the broader implications of the interview (Atkinson, 2019; Howitt & Cramer, 2020). In addition to that, throughout the research process, ethnographers must stay cautious in avoiding judgment and refrain from imposing their cultural norms on the participants (Heigham & Sakui, 2009).

Qualitative experts and textbooks on research methods commonly differentiate between three interview styles: *structured*, *unstructured*, and *semi-structured*. In a structured interview, the interviewer asks predetermined questions in a specific format and order, allowing no room for additional inquiries during the process. This method is commonly employed in survey research to maintain standardisation (Heigham & Sakui, 2009; May, 2011; O'Reilly, 2009).

In contrast, an unstructured interview is more flexible and resembles a free-flowing conversation. The interviewer may have a guide, plan, or a general topic to address. This enables the interviewee to respond at their own pace. On the other hand, a semi-structured interview combines elements of both styles. The main aim is to explore ideas with participants while also seeking fixed responses for certain criteria. In ethnography, unstructured discussions are often preferred to foster reflexivity and provide individuals with the opportunity to delve into their thoughts and express contradictory opinions, doubts, fears, and hopes. While ethnographers may begin with an outline, guide, or plan, they typically welcome the interviewee deviating from the initial topic. This approach helps the ethnographer to understand people from their perspective and gain an insider's view without imposing a predefined line of questioning (Heigham & Sakui, 2009; May, 2011; O'Reilly, 2009). Furthermore, interviews might be done through digital platforms and online communication resources. Thus, it is apparent that the digital age has brought forth new opportunities for gathering data in ethnographic research. With the vast types of digital tools at our disposal – from websites and email to mobile phones, mapping apps, and social media – human interactions and social environments are increasingly taking place online (Jackson, 2015). This digital landscape offers researchers a rich tapestry to explore, where they can immerse themselves in virtual settings and interactions. By using these digital platforms, researchers can actively engage with and investigate various social contexts. They might find themselves participating in virtual communities, conducting interviews through mobile and online platforms, or delving into digital artefacts that reflect different aspects of social life. In essence, ethnographic research now extends beyond physical spaces to

Ethnography

encompass the digital realm, offering a nuanced understanding of human behaviour and social dynamics in today's interconnected world (Coffey, 2018; Hall et al., 2008; Hammersley & Atkinson, 2019; Hine, 2000; Kozinets, 2009; Sarah, 2014).

In general, interviews conducted in the participants' familiar environments are considered a more effective strategy. This approach gives the participants a greater sense of relaxation compared to less familiar surroundings and can offer valuable insights into their self-perception and worldview (Herzog, 2005). However, sometimes, there are instances where it becomes necessary to establish the interview as a distinct setting where the interviewer maintains control. In such cases, the interviewer may choose the location, manipulate its layout, or carefully time their arrival to assert control of the interview environment (Herzog, 2005).

Field Notes

A fundamental method in ethnographic research is field notes. Field notes are these systematic, on-the-spot writings that are directly linked to participant observation. Field notes can serve as the primary means of documenting detailed observations. The quality and nature of field note writing significantly affect an ethnographer's ability to report research findings accurately and effectively. Ethnographers are generally advised to write field notes either during their stay in the field or directly after leaving the field site. This direct way of taking notes minimises the risk of forgetting relevant details observed during fieldwork. In addition to that, allocating sufficient time for note-taking after each visit to the research site is crucial (Coffey, 2018; Eriksson & Kovalainen, 2008).

According to Emerson et al. (2011), field notes can be categorised into four main parts, each distinct from the others. First, jottings consist of brief words or phrases recorded at the field site, usually in a small notebook. This helps in recalling details for more comprehensive notes. Second, descriptions involve writing down everything which the ethnographer can remember about a specific event, such as a board meeting or a one-to-one conversation during lunch. Third, during the analysis, the ethnographer should focus on understanding what was learned in the setting regarding the research question and related aspects. Then, they need to identify themes or patterns that contribute to answering the research question. Fourth, reflection captures the ethnographer's thoughts, feelings, and insights during observations (DeWalt & DeWalt, 2011; Emerson et al., 2011; Eriksson & Kovalainen, 2008; Leavy, 2020).

ETHNOGRAPHY IN LINGUISTICS AND APPLIED LINGUISTICS

Anthropological research extensively utilises ethnography to gain insights into social phenomena and cultural behaviours within communities. Language, as emphasised by Boas (1982), serves as a crucial tool for understanding people's experiences and practices. Linguistic anthropologists, such as Hymes (1964), advocate for an "ethnography of communication," emphasising the necessity to explore how an individual's communication patterns and skills are intricately intertwined with broader social environments. This approach has significantly impacted scholars in SLA, such as Duff (2012), who are interested in understanding how language users are integrated into diverse communities. Of particular interest to these scholars is the examination of the everyday experiences of both learners and educators. Furthermore, Lew et al. (2018) stated that a significant portion of contemporary ethnographic research is conducted within multilingual educational environments, focusing on various topics such as the experiences of

learners or educators within specific contexts, the acquisition of specific competencies, dual language education, multilingual literacy, linguistic environments, and language ideologies.

In linguistics and L2 education, researchers have been investigating language and communication-related topics using ethnographic methodology (Copland & Creese, 2015; Snell et al., 2015; Tusting, 2023). The term “linguistic ethnography” encompasses a huge body of research conducted by scholars who combine linguistic and ethnographic methodologies. This combination aims to investigate the functioning of social and communicative processes across various settings and contexts (Shaw et al., 2015). Furthermore, they state that if ethnography serves as a tool for expanding our comprehension of everyday life, the combined effect with linguistic analysis becomes crucial for delving “deeper into the ethnographic description of social or institutional processes” (Rampton et al., 2015, p. 18). Linguistic ethnographers use ethnography and linguistics together to gain insights into the intricacies of contemporary life. For instance, they may concentrate on examining processes related to globalisation and diversity (Shaw et al., 2015). The findings of these published studies, it is indicated that participant observation has particular significance in contributing to “topic-oriented ethnographies,” (Shaw et al., 2015, p. 7). This allows ethnographers to advance our understanding of language and communication within specific social settings and professional practices. Similarly, Jackson (2015) stated that ethnographic methodology is increasingly employed within educational environments to cultivate learners’ understanding of language and culture, encompassing both self-awareness and awareness of others.

Recent studies in linguistic ethnography have shown the important role of participant observation in linguists’ ability to engage with practitioners and address real-world communication and language use issues (Shaw et al., 2015). For example, Snell’s (2015) study on working-class children’s speech, particularly their use of features like the first-person singular “us” highlights the essential nature of her long involvement with the girls she studied. These examples underscore the fundamental role of long-term participant observation in many aspects of linguistic ethnography.

Furthermore, linguistic ethnography has found application in various aspects of classroom discourse and dialogue (Lefstein & Snell, 2019). This includes examining the impact of social processes and relationships on collaborative knowledge construction (Swann, 2007). Additionally, research has explored the relationships between teacher and learner identities, the expression of learner voice, and its usage in classroom discourse (Maybin, 2006; Segal & Lefstein, 2016).

Previous studies have also investigated issues related to second language (L2) teaching and learning. For example, Beebe (1994) examined the conceptualization and implementation of English as a Foreign Language (EFL) lessons. The study was conducted using interviews and lesson descriptions, and these two methods are well-resonated in ethnographic research. Other studies (e.g., Abidin & Rahmat, 2020) implemented ethnographic research to investigate English language models in one of the schools in Indonesia. The data was collected through observations, interviews, field notes, and document analyses. Similarly, Allo et al. (2020), through an ethnographic research design (i.e., observations), investigated lecturers’ language power in EFL teaching. Additionally, other studies (e.g., Kusumaningrum, 2018; Liebman-Kleine, 1987) utilised ethnography to investigate learners’ perceptions and preferences. Furthermore, ethnographic narrative methodology has been used to explore EFL learners’ identities (Gao, 2021).

Similarly, in research conducted at four universities in Japan, Effiong (2016) investigated the anxiety levels experienced by Japanese learners while acquiring English as an L2. These universities varied in their public or private status, as well as in geographical location. Over four months, Effiong (2016) observed selected classes every three to four weeks. Additionally, he conducted interviews with 26 randomly selected learners and four teachers whose classrooms were observed. Utilising NVivo for

Ethnography

data analysis, Effiong identified patterns and themes indicating that certain social factors within the classroom, such as teacher characteristics like age, friendliness, tone of voice, and attire, contributed to learners' language anxiety. However, Effiong also observed that power dynamics between teachers and learners often played a significant role in generating anxiety, regardless of some of the aforementioned factors. Similar to studies examining identity, learner strategies, and motivation, researchers investigating L2 anxiety commonly employ interviews and observations as primary data collection methods. These approaches offer deeper insights into the intricate sociocultural environments and communities in which participants are situated.

Therefore, it is evident that the ethnographic research can effectively be used to investigate studies around the classroom (Hymes, 1996). Furthermore, Hymes (1996) emphasised that an ethnographic examination of the classroom should be more than just observing activities within the classroom. It should involve observing the behaviours and interaction modes of participants (both teachers and learners) outside the classroom or in various settings.

Furthermore, this approach, as a crucial alternative in educational research, not only allows us to delve into essential theoretical questions but also provides a longitudinal perspective. This extended duration permits us to explore the development and evolution of teaching practices and international patterns within a specific context over time. This dynamic approach is in contrast with the fixed nature of research that relies on single-time observations or testing. Thus, ethnographic approaches offer a more comprehensive understanding of educational phenomena (Watson-Gegeo, 1988). Based on the mentioned studies, it can be concluded that ethnography can have a direct impact on educational practice in two significant ways. Firstly, the observational and interviewing techniques inherent to ethnography can be implemented to examine teacher supervision and feedback, whether in the early stages of teacher training or during staff development. Given that ethnographic observations offer a holistic view of behaviour in various settings and aim to attain an insider's understanding of interactions, these techniques have been proven to be valuable in offering constructive feedback to teachers about classroom dynamics. Essentially, ethnography can enable teachers to bring about positive changes in their classrooms (Watson-Gegeo, 1988).

Based on the findings and explanations of previous studies, ethnographic research can be effectively implemented in the fields of linguistics and applied linguistics. Many issues can be investigated using this approach, as the core components of ethnography, namely participant observation, interviews, and field notes, are highly applicable in the context of teaching and learning both L1 and L2 such as classroom dynamics, teacher and learner behaviours, identities, perceptions and preferences, individual differences, learner strategies, motivation, as well as anxiety (Costa et al., 2022). Importantly, this approach facilitates the collection of a substantial amount of data, contributing to more robust and reliable results.

ETHNOGRAPHY AND THEORY

Conducting any research necessitates a robust theoretical framework that provides a lens through which the results can be comprehensively analysed and interpreted. Researchers choose their research framework built upon an established theory. Therefore, theoretical frameworks guide the researcher in understanding the complex interplay of variables within a given context.

In the field of educational and cultural research, the combination of ethnography with sociocultural theories (Vygotsky, 1986, 1988) offers an effective approach. Ethnography, as a qualitative methodology, involves immersing the researcher in the natural environment, facilitating an in-depth exploration

of cultural practices and social interactions. On the other hand, sociocultural theory, developed by Vygotsky, emphasises the importance of social and cultural influences. When researchers employ these two approaches together, it helps researchers to embark on immersive ethnographic studies within specific communities or educational settings. The theoretical foundations guide researchers to explore social interactions and cultural practices. In that sense, sociocultural theory enriches the analysis by underscoring the impact of social and cultural contexts on various aspects of human behaviour. Triangulating data from observations and interviews, researchers gain a nuanced understanding of the intricate interplay between culture and social interactions. Therefore, it can be concluded that the combination of ethnography with sociocultural theories offers a holistic and contextually rich approach to understanding human behaviour (Harklau, 2005). In that sense, Sociocultural Theory (SCT) effectively can be used in applied linguistics and L2 education. It offers valuable insights for language teaching and learning in applied linguistics. It emphasises the role of social interaction and cultural context in cognitive development and learning, advocating for approaches that promote collaboration and meaningful interaction among learners. By considering learners' Zone of Proximal Development (ZPD), educators can scaffold learning effectively, providing appropriate support and tasks to facilitate language development. Language teaching can leverage authentic contexts and cultural factors to make learning relevant and engaging, while also acknowledging the intersection of language and identity. Moreover, sociocultural theory underscores the importance of cultural mediation in language learning, encouraging the integration of cultural tools and artefacts into instructional practices. For instance, in the provision of corrective feedback (CF), this framework suggests a collaborative approach, where learners engage in joint problem-solving and negotiation of meaning, fostering language acquisition and development within social and cultural contexts. Overall, sociocultural theory provides a comprehensive framework for language teaching and learning, guiding educators in creating inclusive and effective language education practices in applied linguistics (Mahmood, 2023).

Another theory that plays an important role in the field of applied linguistics and L2 education is the Interaction Hypothesis, initially proposed by Long (1980; 1983) and later revised in 1996 (Long, 1996). Subsequently, this hypothesis has evolved into a theoretical framework (Mackey & Gass, 2015) delineating various processes associated with L2 learning. These processes encompass learners' exposure to and production of language and the interaction of input and output with cognitive resources and individual differences (Gass, 1997; Loewen & Sato, 2018; Mackey & Gass, 2015).

Investigations into the effects of interaction on L2 development have been regarded as integral to instructed second language acquisition (ISLA) (Loewen, 2015; Long, 2017; VanPatten, 2017), which focuses on manipulating L2 learning processes and mechanisms. This theory can be effectively integrated with ethnographic research, where the researcher explores the impact of specific variables on language acquisition. For instance, examining interactions between native and non-native speakers, between teachers and learners, or among learners themselves. Through observation and note-taking, ethnographers can gather pertinent data, facilitating a deeper understanding of language acquisition dynamics within real-life contexts.

ETHICAL CONSIDERATION

According to the consensus, one of the principles of ethnographic research is ethics. Ethical considerations play a foundational role in guiding the conduct of ethnographers throughout the research process

Ethnography

(Shank, 2002; Wei, 2023). The significance of ethics in social inquiries cannot be ignored. Research ethics includes the norms, values, and institutional structures that guide researchers throughout their studies. In sociological investigations and ethnographic research, the focal point is the people involved. In that sense, ethical considerations constitute a set of principles and values that should be adhered to when engaging in human affairs. These considerations ensure that the participants refrain from actions that could be dangerous to society or the participants (Angrosino, 2007; Iphofen, 2020). There are some essential components of research ethics such as informed consent and privacy. In applied linguistics research, particularly concerning teaching and learning issues, participants are predominantly learners. Therefore, it is essential to address ethical considerations when conducting research involving them. This entails ensuring their confidentiality, preserving their identity, and safeguarding their emotional well-being. Participants must be fully informed about the core purpose of the research, and efforts should be made to avoid singling out individuals from benefiting, especially in studies involving treatment and control groups.

Informed Consent

The informed consent procedure is one of the pivotal tools in ensuring confidentiality. It is grounded in the principle that participation in research should not be harmed, keeps individual rights, and respects relationships, bonds, and commitments. In scientific research within the social sciences, the informed consent process is required for fulfilling ethical approval. It involves informing potential participants about crucial aspects of a research study and outlining what their participation will mean. This process is a central component in the ethical conduct of research involving human subjects. Sometimes, ethnographers deviate from the principle of informed consent. This is when they need to behave in covert participant observation. This methodology extends beyond face-to-face studies to include covert research conducted online, such as participating in chatrooms or other virtual environments. In these scenarios, researchers may “lurk” or engage more actively without revealing their researcher status, and participants are later informed about the research, at which point their consent is necessary. Subsequently, participants have the freedom to choose whether to be part of the study or withdraw from it (Hammersley & Atkinson, 2019)

Privacy

Research participants’ privacy and confidentiality are unquestionably the essential components of ethical considerations that ethnographers need to prioritise. Optimal judgments must be made based on particular circumstances, and any evaluation of an ethnographer’s work should consider the contextual factors involved (Hammersley & Atkinson, 2019; Tomkinson, 2015). Ultimately, it is paramount to ensure that participants in the study are not subjected to harm, exploitation, or any form of reciprocity. Achieving this involves offering comprehensive information about the research, including details on how the data will be utilised and analysed (Atkinson et al., 2007; Coffey, 2018; Hammersley & Atkinson, 2019).

DATA ANALYSIS IN ETHNOGRAPHIC RESEARCH

In earlier sections, an examination was conducted on the primary data sources utilised by ethnographers. These encompass observation and active participation, oral accounts from participants—whether occur-

ring naturally or obtained through interviews—and a variety of documents, artefacts, and online data and their respective elicitation methods. This section now directs attention to the processing of data and the necessary organisational steps in preparation for subsequent analysis (Eriksson & Kovalainen, 2008).

In ethnographic research, the process of data analysis is intricately intertwined with interpretation, extending throughout the entirety of the research endeavour. This implies an ongoing engagement with the empirical data, where continuous analysis, interpretation, and knowledge acquisition occur. Such analysis requires a blend of imaginative discernment and meticulous consideration of the research objectives. Eventually, a transition occurs in the research process where data collection ceases and the focus shifts towards a more comprehensive and systematic examination of the gathered information. At this juncture, key questions emerge, such as: What insights can be gleaned from the field data? What observations have been garnered during fieldwork? And what distinctive contributions can be made to address the research questions? (Coffey, 2018; Eriksson & Kovalainen, 2008).

As mentioned before, in ethnographic research, data collection involves techniques such as note-taking, interviews, fieldwork, and observations. However, before proceeding to the analysis phase, it is imperative to organise and prepare the gathered data. For instance, if the data is recorded in digital formats like audio or video, analysis can occur without transcription, although many researchers choose to transcribe to address ethical considerations. Although software exists for reviewing, categorising, and storing audio or audio-video extracts, most ethnographers still opt to transform such data into text for analysis purposes (Pole & Morrison, 2003). This preference is particularly relevant when the final research report predominantly takes the form of text. Despite the potential to create digital reports with links to audio-visual data, this practice remains uncommon due to ethical concerns. Therefore, transcription is typically undertaken, acknowledging its time-consuming nature, necessitating careful planning in research endeavours. Various technological tools can aid in transcription, including programs facilitating repeated listening, documentation of elements like pauses and pitch variation, and even initial transcription through voice recognition. However, the ethnographer must always verify, correct, and augment the produced transcript (Coffey, 2018; Hammersley & Atkinson, 2019). In this regard, ethnographers are employing computer technology to manage and scrutinise various forms of data, including textual materials like field notes and interview transcripts, as well as multimedia content such as graphics, audio recordings, and video clips. Among the prominent software tools utilised in ethnographic studies are NUDIST, NVivo, Atlas-T1, and Ethnograph (Jackson, 2015).

Ethnographers typically amass extensive data from various sources, including observational field-notes, audio or video recordings from diverse locations, interview notes or transcripts from different individuals, and a range of documents, whether published or unpublished, online or offline, official or personal. The objective is to uncover connections across the entire body of data to develop a comprehensive understanding of the people involved and their actions (Hammersley & Atkinson, 2019). Efficient data management is an integral aspect of any analysis. Denscombe (1998) provides practical advice: It is advisable, whenever possible, to standardize the format of all materials to facilitate storage and ease of review. Additionally, the raw data should be organised in a manner that allows researchers to include notes and comments. Each piece of “raw data” material should be assigned a unique serial number or code for reference purposes (Coffey, 2018). This is crucial for two reasons: for one thing, during data analysis, the researcher needs to revisit specific points of interest; for another, from a practical standpoint, when sifting through extensive amounts of papers or record cards, it is easy to confuse the order or lose track of the original location of a piece of raw data. Lastly, creating a backup copy of all original materials is recommended (Denscombe, 2010).

Ethnography

It is crucial to acknowledge that there is no prescribed formula for the analysis of ethnographic data. There is no singular approach to tackling the analysis of such data (Eriksson & Kovalainen, 2008; Hammersley & Atkinson, 2019). Furthermore, in ethnographic research, there is no specific time to commence the data analysis process. As Bryman and Burgess (1994, p. 2018) stated, “sometimes, analysis seems to begin more or less immediately upon entering the field . . . whereas others appear to delay analysis pending the accumulation of a substantial body of data”. In the initial stages of analysis, it is essential to view the data as materials for generating new ideas and, equally importantly, for clarifying and advancing concepts drawn from research literature and other sources. The focus is on identifying interesting patterns, recognising surprises or puzzles, exploring how the data aligns with common-sense knowledge, official accounts, or prior theories, and detecting any inconsistencies or contradictions within individuals’ beliefs, attitudes, and actions across various contexts (Hammersley & Atkinson, 2019). The initial stages of ethnographic data analysis often involve identifying themes and patterns. This typically includes establishing a practical coding and categorisation strategy based on potentially meaningful concepts or ideas. A thematic analysis follows a “code-and-retrieve” process, wherein codes are used to label and organise data, facilitating the retrieval or grouping of data based on these assigned codes (Angrosino, 2007; Hammersley & Atkinson, 2019; Pole & Morrison, 2003). It can be inferred that it is crucial to meticulously observe the data and look for important clues, as Hammersley and Atkinson (2019, p. 73) pointed out that “significant analytic concepts can also come from words or phrases used by participants”.

The primary responsibility of an ethnographer is to provide descriptions and explanations for what has been observed in the field. In the realm of educational ethnography, qualitative description often navigates a delicate balance between depicting vignettes of the “familiar” and the “strange”. This approach aims to elicit diverse understandings about “what is going on here”, and, as illustrated in the aforementioned example, the researcher incorporates field notes into the narrative (Pole & Morrison, 2003). In the field of applied linguistics and L2 education, ethnographic studies often take the form of case studies and observations. For instance, researchers employ ethnographic studies to explore teachers’ or learners’ views and attitudes towards specific aspects of L2 teaching and learning. An example of this is Beebe’s (1994) investigation into teacher and learner perspectives on EFL classroom activities using an ethnographic approach (Beebe, 1994). In such studies, researchers typically observe classes, take detailed notes, and may also record lessons using video. Additionally, interviews are commonly employed as another essential component of ethnographic research, allowing researchers to gain further insights from participants. However, during ethnographic research with L2 learners, the researcher(s) may face some challenges. The challenges include language barriers that hinder communication and the accuracy of data collected, potential cultural differences impacting participant interactions and researcher understanding, and power dynamics influencing the depth and authenticity of data obtained. Additionally, ethical considerations regarding informed consent, confidentiality, and cultural sensitivity are paramount, particularly in navigating interpreter use and ensuring participants’ rights are upheld. Managing participants’ identities and self-presentations in the L2 context also adds complexity to data interpretation. Successfully addressing these issues requires meticulous planning, cultural competence, and reflexivity on the part of the researcher to foster trust, establish rapport, and ensure the integrity of the ethnographic data collected (Hammersley & Atkinson, 2019; Starfield, 2015).

Patterns and Classifications

Within ethnographic analysis, considerable emphasis has been placed on generating theoretical descriptions. According to Miles and Huberman (1994), a crucial element of meticulous analysis involves careful attention to the patterns and organisation of the data. Dey (1993) characterises this process as an iterative spiral, progressing from data collection to description, classification, and establishing connections between classifications to ultimately develop a qualitative account of the research. In the realm of applied linguistics and L2 education, when qualitative data are collected through methods such as class observations, video recordings (transcribed into text), note-taking, interviews, and text analysis, these data can undergo classification, patterning, and preparation for analysis and interpretation. Researchers can extract constructs and themes from the data, facilitating deeper understanding and insight into the phenomena under investigation. This process enables researchers to identify recurring patterns, establish connections, and derive meaningful interpretations from the qualitative data collected. Dey (1993, p. 52) outlines a series of suggested steps in this iterative process, highlighting their significance.

- In *classifying*, we establish logical connections between categories.
- Once *categorised*, we can look for patterns in the data.
- Statistics can help identify *singularities*, *regularities*, and *variations*.
- Regularities can be suggestive but not conclusive evidence of connections.
- To establish connections requires a qualitative analysis of *capabilities* and *liabilities*.
- *Graphic* representation is useful in analysing concepts and their connections.
- *Theories* can contribute direction and order to the analysis.

Narrative Analysis

The analytical aspect of ethnography can benefit from a variety of strategies and techniques, particularly focusing on interview, conversational, or documentary data. Narrative analysis emerges as a method for handling qualitative data, well-suited for examining accounts of experiences. Therefore, the strategies employed in narrative analysis offer potential approaches for scrutinising ethnographic interviews and conversations. Narrative analysis does not rely on complex segmentation or coding of data; instead, it emphasises treating larger data units, such as entire interviews or significant portions of them, as distinct entities. Therefore narrative analysis contributes to understanding how accounts are constructed and the roles they play in describing and making sense of experiences (Coffey, 2018; Hammersley & Atkinson, 2019). More can be read on narrative style analysis as discussed in Chapter (specify the chapter on qualitative data analysis here).

Analysing and Theorising

In ethnography research, the process of theorising plays a crucial role in data analysis. It offers various strategies and techniques for data analysis. For example, it provides opportunities to both “think about” and “think with” the collected data. This thinking process involves systematic and analytical engagement with the data while also encouraging creativity and artfulness. Generated ideas serve as the foundational elements for constructing theories (Bryant, 2017; Coffey, 2018; Hammersley, 1995; Hammersley & Atkinson, 2019). Close attention to data through analytical processes enables ethnographers

Ethnography

to engage with and reflect upon their data. Theorising in this context involves not only working with the existing data but also extending beyond it, such as developing, using, and testing ideas that boost deeper engagement with the field of study (Coffey, 2018). In that sense, Dey (1993, p. 53) defined theory as “simply an idea about how other ideas might be related”. This helps us understand the intertwined nature of analysing and theorising in ethnographic practice. Ultimately, ideas are integral to the entire ethnographic enterprise. Ethnographic research in applied linguistics and L2 education offers valuable insights into various theoretical aspects of language teaching and learning. For example, studies focusing on identity construction among language learners contribute to theorising about how individuals negotiate their identities within the classroom context (Norton, 2000). Through ethnographic observations, researchers can explore how language learners navigate their linguistic and cultural identities, shedding light on the complex interplay between language proficiency, cultural background, and social interactions (Kanno & Norton, 2003). Additionally, ethnography facilitates the examination of language socialisation processes in L2 education, allowing researchers to analyse how learners acquire linguistic and sociocultural competencies through participation in classroom activities and interactions with peers and teachers (Ochs & Schieffelin, 2012).

Furthermore, ethnographic studies provide insights into the relationship between teacher beliefs and instructional practices in L2 education (Borg, 2015). By observing teachers in their natural classroom settings, researchers can theorise about how teachers’ beliefs about language learning and teaching influence their pedagogical decisions and interactions with learners (Johnson, 2009). Moreover, ethnography contributes to theorising about language policy and planning by examining the implementation of language policies at the classroom level (Hornberger, 2005). Researchers can investigate how language policies impact language teaching practices and learner-learning outcomes, offering critical insights into the complexities of language policy implementation in educational contexts.

WRITING ETHNOGRAPHY

In ethnography research, writing plays a central role. It serves as the core medium through which ethnographic data and analyses are brought to life. Therefore, it is crucial to emphasise that the writing process in ethnography goes beyond communicating analysis, arguments, and conclusions to an audience or audiences alone. While research products are not limited to written text alone, they may include various forms of media such as images and other materials, but the act of writing remains a fundamental aspect of translating and presenting ethnographic insights (Coffey, 2018; Hammersley & Atkinson, 2019).

Engaging in ethnographic research yields vast amounts of data, encompassing original field notes, subsequent annotations, and evolving insights gained through data analysis and connection to existing theory and academic literature (Light, 2010). Eventually, you need to distil this wealth of information into a coherent written form for your audience. This process involves simplifying and synthesising the data to highlight the most significant findings. It is important to recognise that there is no one-size-fits-all approach to writing up ethnographic research. Avoid the misconception that there is a singular, definitive method for presenting your findings. Instead, consider various conventions for organising your work. One approach is to structure your write-up around key ideas, such as categories, themes, and concepts that emerge from your analysis. Categories represent fundamental concepts or events identified during analysis, often using coding. Additionally, as you delve into your data, you will likely observe recurring themes or ideas, which can serve as organising principles for your write-up. Alternatively, you may opt

for a chronological structure, particularly beneficial for longitudinal studies, where your written narrative traces the progression of events over time (Atkinson, 2007; Hammersley & Atkinson, 2019; Woods & Sikes, 2022).

In applied linguistics, for the thematic approach, a researcher may conduct ethnographic research on language use in multilingual classrooms. Through field observations, interviews, and document analysis, the researcher identifies various themes such as language policies, language ideologies, and language socialisation practices within the classroom. They organise their write-ups around these thematic categories, dedicating sections of their paper to each theme. For instance, one section may focus on how language policies shape classroom interactions, while another explores the role of language ideologies in learners' language learning experiences. By structuring the write-up thematically, the researcher provides a comprehensive analysis of the different aspects of language use in the classroom, contributing to the broader understanding of language education practices.

On the other hand, for a chronological approach in the context of L2 education, a researcher conducts a longitudinal ethnographic study to investigate the language development of immigrant learners in an English language learning programme over two years. During this period, the researcher(s) collects data through classroom observations, interviews with learners and teachers, and language proficiency assessments at regular intervals. For the write-up, the researcher adopts a chronological structure, presenting the findings in a narrative format that follows the learners' language learning over time. They start with an introduction to the research context and participants, then proceed to describe the initial language proficiency levels and language learning experiences of the learners. Subsequent sections trace the learners' progress and challenges in language acquisition, culminating in an analysis of their language proficiency outcomes at the end of the study period. This chronological approach allows the researcher(s) to depict the evolving nature of language learning experiences and outcomes among immigrant learners, offering insights into the longitudinal dynamics of L2 education.

Key Principles for Ethnographic Writing

While each ethnographer may adopt their unique style, ethnographic writing might have different styles from other social science writings. In that sense, Fetterman (2010) argues that ethnographic writing is characterised by two stylistic norms: “thick description” and the incorporation of substantial references to or direct quotations from the primary field data.

First, *thick description* aims to situate a phenomenon within a broader framework to explore and grasp its multifaceted meanings (Holliday, 2016; Starfield, 2015). It endeavours to provide extensive contextualisation, striving for a comprehensive understanding. The objective is to immerse the reader into the heart of an experience, event, or action, offering a thorough examination of the surrounding context, reasons, intentions, understandings, and motivations (Mansvelt & Berg, 2021). Therefore, simply straightforwardly presenting research findings does not meet the criteria for “thick description”. Instead, “thick description” entails a comprehensive and detailed analysis of these findings, aiming to provide readers with a deeper comprehension by fully contextualising the researcher's observations or experiences (Kwame Harrison, 2018; Light, 2010; Reeves et al., 2013).

The second characteristic of ethnographic writing is *extensively referencing your original field data* when writing a “thick description”. This typically contains direct quotations from interviews or focus groups or provides detailed descriptions of observed behaviour. The objective is to give prominence to the voices of the research participants (Coffey, 1999, 2018), allowing them to express themselves in

Ethnography

their own words or actions. This approach acknowledges participants as individuals rather than mere subjects of study (Wolcott, 2009), facilitating a more authentic portrayal of the studied situation. It is crucial to keep participants' exact statements or utterances such as "erm" or "sort of," should be kept, as they reflect the natural speech patterns of the participants. Changing their expressions would not only compromise their authentic voice but also impose subjective norms onto the research data. Therefore, keeping the original field data, whether through interviews or observations, preserves the integrity of the studied situation or event (Liamputtong, 2020; Mansvelt & Berg, 2021; Shank, 2002).

However, crafting an ethnography means more than just arranging quotations or observations in a logical sequence to capture data complexity. Simply presenting field data does not suffice for ethnography. While participant voices hold significance, equally crucial is the researcher's interpretation of the research data. Therefore, including quotations within a "thick description" necessitates adding commentary, contextualisation, and analysis of these excerpts and their broader implications. Additionally, the researcher's written narrative should not exist in isolation from existing literature and theories relevant to the study subject. Ultimately, the written account should interweave field data (verbatim quotations or observations) with interpretation and discussion (the "thick description"), while also integrating the works of other scholars and the broader academic discourse. The goal is to create a text that is richly detailed and intellectually engaging (Hammersley & Atkinson, 2019).

In simpler terms, when researchers want to share what they have learned from studying different cultures up close (i.e., ethnography), they usually write a study about it called an ethnographic monograph. This work (i.e., the study) follows certain rules and styles that have been around for a long time (Coffey, 2018). Angrosino (2007) outlined the typical structure of scholarly writing, noting that it often incorporates key elements arranged in chronological order. Angrosino (2007, p. 82) extended this understanding, assuming that an ethnographic report would share similar elements and adhere to comparable principles. Consequently, according to Angrosino, a conventional ethnographic text would typically include eight components: (1) *a title* which clearly and straightforwardly describes the report (2), an *abstract* or *preface* offering a brief overview of the findings, method, and structure of the report, (3) *an introduction* which provides orientation to the reader, possibly introducing the main research questions and key issues, (4) *a literature review* which establishes a framework for the study, incorporating substantive, methodological, and theoretical works from the existing literature, (5) *a section of methodology* describing methodological decisions, research design processes, data collection, and data analysis, and may include details about the research setting and participants, (6) *a report of findings or results* presenting the main outcomes of the research in relation to and contextualized by the research questions and the methodological/substantive/theoretical framing already described, (7) *a conclusion* summarising the main findings and key contributions, potentially suggesting directions for future research, and (8) *references, notes, and appendices*, including additional materials that supplement the main text.

CONCLUSION

This chapter delved into the methodological intricacies of ethnography, a prominent qualitative research approach widely employed in the exploration of human lives and behaviours with a focus on applied linguistics and L2 education. Ethnography's intrinsic capacity to engage with participants in their natural environments allows for the collection of rich and contextually embedded data. The approach's reliance

on direct involvement and naturalistic observation ensures the authenticity and depth of the gathered information.

Ethnographic research stands out for its efficacy in amassing a substantial volume of data, thereby ensuring the robustness of subsequent analyses, results, and implications across various study domains. In the field of applied linguistics and L2 education, ethnography can be seen and implemented as a valuable tool. Its implications extend to the investigation of multifaceted aspects related to language teaching and learning, including teachers and learners.

Finally, it can be concluded that investigating a problem through observations, interviews, and meticulous field note-taking within the ethnographic framework facilitates a comprehensive exploration of the complex interactions within language education settings. This approach allows for the triangulation of collected data, enabling the identification of meaningful patterns and themes. The systematic presentation of these findings in a logical order enhances the interpretative depth and overall coherence of the research outcomes. Therefore, ethnographic research emerges as a potent and versatile qualitative research approach, as explained in the preceding sections. Its nuanced approach to data collection and analysis contributes significantly to the depth and authenticity of insights gained, rendering it an invaluable tool for researchers seeking a comprehensive understanding of human experiences in diverse contexts.

REFERENCES

- Abidin, M. Z., & Rahmat, A. (2020). English learning model: An ethnography study. *Getsempena English Education Journal*, 7(1), 183–199. doi:10.46244/geej.v7i1.1059
- Allo, M. D. G., Rahman, A., & Sultan. (2020). A critical discourse analysis on lecturers' language power in EFL teaching: An ethnography study at a higher education. *Asian EFL Journal*, 27(3), 177-201.
- Angrosino, M. (2007). *Doing Ethnographic and Observational Research* (1 ed.). SAGE Publications. doi:10.4135/9781849208932
- Atkinson, P. (2007). *Ethnography: Principles in practice*. Routledge. doi:10.4324/9780203944769
- Atkinson, P., Delamont, S., Coffey, A., Lofland, J., & Lofland, L. H. (2007). *Handbook of ethnography*. SAGE Publications Ltd. doi:10.4324/9780203944769
- Atkinson, P. A. (2019). *Writing ethnographically*. SAGE Publications Ltd.
- Beebe, J. D. (1994). Teacher and student views of EFL classroom activities: An ethnographic study. *Language, Culture and Curriculum*, 7(3), 191–203. doi:10.1080/07908319409525177
- Boas, F. (1982). *Race, language, and culture*. University of Chicago Press.
- Borg, S. (2015). *Teacher cognition and language education: Research and practice*. Bloomsbury Publishing.
- Brinkmann, S., & Kvale, S. (2018). *Doing interviews*. SAGE Publications Ltd., doi:10.4135/9781529716665
- Bryant, A. (2017). *Grounded theory and grounded theorizing: Pragmatism in research practice*. Oxford University Press. doi:10.1093/acprof:oso/9780199922604.001.0001
- Bryman, A. (2015). *Social research methods*. Oxford University Press.

Ethnography

- Bryman, A., & Burgess, B. (1994). *Analyzing qualitative data*. Routledge., doi:10.4324/9780203413081
- Burns, R. B. (2000). *Introduction to research methods*. SAGE Publications Inc.
- Campbell, E., & Lassiter, L. E. (2014). *Doing ethnography today: Theories, methods, exercises*. Wiley-Blackwell.
- Cockerham, W. C. (2013). Social causes of health and disease. *Polity*.
- Coffey, A. (1999). *The ethnographic self*. SAGE Publications Ltd., doi:10.4135/9780857020048
- Coffey, A. (2018). *Doing ethnography*. Sage (Atlanta, Ga.).
- Conrad, S., Hartig, A., & Santelmann, L. (2020). *The Cambridge introduction to applied linguistics*. Cambridge University Press. doi:10.1017/9781108658089
- Copland, F., & Creese, A. (2015). Linguistic ethnography: Collecting, analysing and presenting data. *Sage (Atlanta, Ga.)*. doi:10.4135/9781473910607
- Costa, P. I. D., Kessler, M., & Gajasinghe, K. (2022). Ethnography. In S. Li, P. Hiver, & M. Papi (Eds.), *The Routledge handbook of second language acquisition and individual differences* (pp. 427–440). Routledge. doi:10.4324/9781003270546-34
- Creese, A., Bhatt, A., Bhojani, N., & Martin, P. (2008). Fieldnotes in team ethnography: Researching complementary schools. *Qualitative Research*, 8(2), 197–215. doi:10.1177/1468794107087481
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications, Inc.
- Denscombe, M. (2010). *The good research guide for small-scale research projects* (4, Ed.). Open University Press.
- Denzin, N. K., & Lincoln, Y. S. (2017). *The SAGE handbook of qualitative research*. SAGE Publications Inc.
- DeWalt, K. M., & DeWalt, B. R. (2011). *Participant observation: A guide for fieldworkers*. AltaMira Press.
- Dey, I. (1993). *Qualitative data analysis: A user-friendly guide for social scientists*. Routledge.
- Duff, P. A. (2012). Second language socialization. In A. Duranti, E. Ochs, & B. B. Schieffelin (Eds.), (pp. 564–586). Wiley-Blackwell.
- Effiong, O. (2016). Getting them speaking: Classroom social factors and foreign language anxiety. *TESOL Journal*, 7(1), 132–161. doi:10.1002/tesj.194
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (2011). *Writing ethnographic fieldnotes* (2nd ed.). The University of Chicago Press. doi:10.7208/chicago/9780226206868.001.0001
- Erickson, F. (2017). Qualitative methods: Histories in social and educational research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE Handbook of Qualitative Research* (pp. 96–130). SAGE Publications.
- Eriksson, P., & Kovalainen, A. (2008). *Qualitative methods in business research*. SAGE Publications Ltd. doi:10.4135/9780857028044

- Fetterman, D. M. (2010). *Ethnography: Step-by-step*. Sage (Atlanta, Ga.).
- Gao, Y. (2021). How do language learning, teaching, and transnational experiences (re)shape an EFLer's identities? A critical ethnographic narrative. *SAGE Open*, *11*(3). Advance online publication. doi:10.1177/21582440211031211
- Gass, S. M. (1997). *Input, interaction, and the second language learner*. Routledge. doi:10.4324/9780203053560
- Gay, L. R., Mills, G. E., & Airasian, P. (2012). *Educational eesearch: Competencies for analysis and applications*. Pearson.
- Hall, T., Lashua, B., & Coffey, A. (2008). Sound and the everyday in qualitative research. *Qualitative Inquiry*, *14*(6), 1019–1040. doi:10.1177/1077800407312054
- Hammersley, M. (1995). Theory and evidence in qualitative research. *Quality & Quantity*, *29*(1), 55–66. doi:10.1007/BF01107983
- Hammersley, M., & Atkinson, P. (2019). *Ethnography: Principles in practice*. Routledge. doi:10.4324/9781315146027
- Harklau, L. (2005). Ethnography and ethnographic research on second language teaching and learning. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (pp. 179–194). Routledge., doi:10.4324/9781410612700
- Heath, S. B. (1983). *Ways with words: Language, life and work in communities and classrooms*. Cambridge University Press. doi:10.1017/CBO9780511841057
- Heigham, J., & Croker, R. (2009). *Qualitative research in applied linguistics: A practical introduction* (1st ed.). doi:10.1057/9780230239517
- Heigham, J., & Sakui, K. (2009). Ethnography. In J. Heigham & R. A. Croker (Eds.), *Qualitative research in applied linguistics: A practical introduction* (pp. 91–111). Palgrave Macmillan., doi:10.1057/9780230239517
- Herzog, H. (2005). On home turf: Interview location and its social meaning. *Qualitative Sociology*, *28*(1), 25–47. doi:10.1007/s11133-005-2629-8
- Heyl, B. S. (2007). Ethnographic interviewing. In P. Atkinson, A. Coffey, Sara Delamont, J. Lofland, & L. Lofland (Eds.), *Handbook of ethnography* (pp. 369–383). SAGE.
- Hine, C. (2000). *Virtual ethnography*. SAGE Publications Ltd., doi:10.4135/9780857020277
- Holliday, A. (2016). *Doing & writing qualitative research*. Sage Publications Ltd.
- Hornberger, N. H. (2005). Frameworks and models in language policy and planning. In T. Ricento (Ed.), *An introduction to language policy: Theory and method* (pp. 24–41). Wiley-Blackwell.
- Howitt, D., & Cramer, D. (2020). *Research methods in psychology*. Pearson.
- Hymes, D. (1964). Introduction: Toward ethnographies of communication. *American Anthropologist*, *66*(6), 1–34. <https://www.jstor.org/stable/668159>. doi:10.1525/aa.1964.66.suppl_3.02a00010

Ethnography

- Hymes, D. (1996). *Ethnography, linguistics, narrative inequality: Toward an understanding of voice*. Routledge.
- Iphofen, R. (2020). *Handbook of research ethics and scientific integrity*. Springer Cham. doi:10.1007/978-3-030-16759-2
- Jackson, J. (2015). Ethnography. In Z. Hua (Ed.), *Research methods in intercultural communication: A practical guide* (pp. 239–254). John Wiley & Sons Inc., doi:10.1002/9781119166283.ch16
- Johnson, K. E. (2009). *Second language teacher education: A Sociocultural perspective*. Routledge. doi:10.4324/9780203878033
- Kanno, Y., & Norton, B. (2003). Imagined communities and educational possibilities: Introduction. *Journal of Language, Identity, and Education*, 2(4), 241–249. doi:10.1207/S15327701JLIE0204_1
- Kozinets, R. (2009). *Nemography: Doing ethnographic research online*. SAGE Publications Ltd.
- Kusumaningrum, W. R. (2018). Pre-service teachers' perception of teaching future EFL students: A micro-ethnography approach. *Journal of Language Teaching and Research*, 9(1), 74–79. doi:10.17507/jltr.0901.09
- Kwame Harrison, A. (2018). *Ethnography*. Oxford University Press. doi:10.1093/oso/9780199371785.001.0001
- Leavy, P. (2020). Introduction to the Oxford handbook of qualitative research. In P. Leavy (Ed.), *The Oxford handbook of qualitative research* (pp. 1–20). Oxford University Press. doi:10.1093/oxford-hb/9780190847388.013.9
- Lefstein, A., & Snell, J. (2019). Linguistic ethnographic analysis of classroom dialogue. In N. Mercer, R. Wegerif, & L. Major (Eds.), *The Routledge international handbook of research on dialogic education* (pp. 63–75). Routledge. doi:10.4324/9780429441677-7
- Lew, S., Yang, A. H., & Harklau, L. (2018). Qualitative methodology. In A. Phakiti, P. De Costa, L. Plonsky, & S. Starfield (Eds.), *The Palgrave handbook of applied linguistics research methodology* (pp. 79–101). Palgrave Macmillan. doi:10.1057/978-1-137-59900-1_4
- Liamputtong, P. (2020). *Qualitative research methods*. Oxford University Press.
- Liebman-Kleine, J. (1987). Teaching and researching invention: Using ethnography in ESL writing classes. *ELT Journal*, 41(2), 104–111. doi:10.1093/elt/41.2.104
- Light, D. (2010). The final stage? Writing up ethnographic research. In J. Scott-Jones & S. Watt (Eds.), *Ethnography in social science practice* (pp. 339–363). Routledge.
- Loewen, S. (2015). *Introduction to instructed second language acquisition*. Routledge.
- Loewen, S., & Sato, M. (2018). Interaction and instructed second language acquisition. *Language Teaching*, 51(3), 285–329. doi:10.1017/S0261444818000125
- Long, M. H. (1980). *Input, interaction, and second language acquisition*. University of California.

- Long, M. H. (1983). Native speaker/non-native speaker conversation and the negotiation of comprehensible input. *Applied Linguistics*, 4(2), 126–141. doi:10.1093/applin/4.2.126
- Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of research on language acquisition* (pp. 413–468). Academic Press. doi:10.1016/B978-012589042-7/50015-3
- Long, M. H. (2017). Instructed second language acquisition (ISLA): Geopolitics, methodological issues, and some major research questions. *Instructed Second Language Acquisition*, 1(1), 7–44. doi:10.1558/isla.33314
- Mackey, A., & Gass, S. M. (2015). Input, interaction, and output in second language acquisition. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition* (pp. 180–206). Routledge., doi:10.4324/9781315750606
- Mackey, A., & Gass, S. M. (2021). *Second language research methodology and design*. Routledge. doi:10.4324/9781003188414
- Mahmood, R. Q. (2023). Enhancing EFL speaking and pronunciation skills: Using explicit formal instruction in a Kurdish university. *Issues in Educational Research*, 33(4), 1421–1440. <http://www.iier.org.au/iier33/mahmood-abs.html>
- Mansvelt, J., & Berg, L. D. (2021). Writing qualitative geographies: Constructing geographical knowledges. In I. Hay & M. Cope (Eds.), *Qualitative research methods in human geography*. Oxford University Press.
- May, T. (2011). *Social research: Issues, methods, and process*. Open University Press.
- Maybin, J. (2006). *Children's voices: Talk, knowledge and identity*. Palgrave Macmillan London., doi:10.1057/9780230511958
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications, Inc.
- Norton, B. (2000). *Identity and language learning: Gender, ethnicity and educational change*. Longman.
- O'Reilly, K. (2009). *Key concepts in ethnography*. SAGE Publications Ltd. doi:10.4135/9781446268308
- Ochs, E., & Schieffelin, B. B. (2012). The theory of language socialization. In A. Duranti, E. Ochs, & B. B. Schieffelin (Eds.), *The handbook of language socialization* (pp. 1–21). Blackwell Publishing Limited., doi:10.1002/9781444342901.ch1
- Pole, C., & Morrison, M. (2003). *Ethnography for education*. Open University Press.
- Rampton, B., Maybin, J., & Roberts, C. (2015). Theory and method in linguistic ethnography. In J. Snell, S. Shaw, & F. Copland (Eds.), *Linguistic ethnography interdisciplinary explorations* (pp. 14–50). Palgrave Macmillan. doi:10.1057/9781137035035_2
- Reeves, S., Kuper, A., & Hodges, B. D. (2008). Qualitative research methodologies: Ethnography. *BMJ (Clinical Research Ed.)*, 337(aug07 3), a1020. doi:10.1136/bmj.a1020 PMID:18687725

Ethnography

Reeves, S., Peller, J., Goldman, J., & Kitto, S. (2013). Ethnography in qualitative educational research: AMEE Guide No. 80. *Medical Teacher*, 35(8), e1365–e1379. doi:10.3109/0142159X.2013.804977 PMID:23808715

Sarah, P. (2014). *Doing visual ethnography*. SAGE Publications, Ltd.

Segal, A., & Lefstein, A. J. (2016). Exuberant, voiceless participation: An unintended consequence of dialogic sensibilities? *L1-Educational Studies in Language and Literature*, 16(2), 1–19. doi:10.17239/L1ESLL-2016.16.02.06

Shank, G. D. (2002). *Qualitative research. A personal skills approach*. Upper Saddle River.

Shaw, S., Copland, F., & Snell, J. (2015). *An introduction to linguistic ethnography: Interdisciplinary explorations*. Palgrave Macmillan.

Snell, J. (2015). Linguistic ethnographic perspectives on working-class children's speech challenge discourses of deficit. In J. Snell, S. Shaw, & F. Copland (Eds.), *Linguistic ethnography interdisciplinary explorations* (pp. 225–245). Palgrave Macmillan. doi:10.1057/9781137035035_12

Snell, J., Shaw, S., & Copland, F. (Eds.). (2015). *Linguistic ethnography interdisciplinary explorations*. Palgrave Macmillan. doi:10.1057/9781137035035

Starfield, S. (2015). Ethnographic research. In B. Paltridge & A. Phakiti (Eds.), *Research methods in applied linguistics: A practical resource* (pp. 137–152). Bloomsbury Publishing Plc., <https://ebookcentral.proquest.com/lib/usyd/detail.action?docID=6939693>

Swann, J. (2007). Designing 'educationally effective' discussion. *Language and Education*, 21(4), 342–359. doi:10.2167/le702.0

Tomkinson, S. (2015). Doing fieldwork on state organizations in democratic settings: Ethical issues of research in refugee decision making *orum Qualitative Sozialforschung Forum: Qualitative. Social Research*, 16(1). doi:10.17169/fqs-16.1.2201

Tusting, K. (2023). General introduction. In K. Tusting (Ed.), *The Routledge handbook of linguistic ethnography*. Routledge.

VanPatten, B. (2017). Situating instructed language acquisition: Facts about second language acquisition. *Instructed Second Language Acquisition*, 1(1), 45–59. doi:10.1558/isla.33315

Vygotsky, L. S. (1986). *Thought and language*. MIT Press.

Vygotsky, L. S. (1988). *The collected works of L. S. Vygotsky. Vol. I: Problems of general psychology*. Plenum Press.

Watson-Gegeo, K. A. (1988). Ethnography in ESL: Defining the essentials. *TESOL Quarterly*, 22(4), 575–592. doi:10.2307/3587257

Wei, L. (2023). Ethnography: Origins, features, accountability, and criticality. In J. McKinley & H. Rose (Eds.), *The Routledge handbook of research methods in applied linguistics* (pp. 154–164). Routledge.

Wolcott, H. (2009). *Writing up qualitative research*. SAGE Publications, Inc., doi:10.4135/9781452234878

Woods, P., & Sikes, P. (2022). *Successful writing for qualitative researchers*. Routledge. doi:10.4324/9781003143406

ADDITIONAL READINGS

Atkinson, P., Delamont, S., Coffey, A., Lofland, J., & Lofland, L. H. (2007). *Handbook of ethnography*. SAGE Publications Ltd. doi:10.4324/9780203944769

Hammersley, M., & Atkinson, P. (2019). *Ethnography: Principles in practice*. Routledge. doi:10.4324/9781315146027

Mackey, A., & Gass, S. M. (2021). *Second language research methodology and design*. Routledge. doi:10.4324/9781003188414

Rampton, B., Maybin, J., & Roberts, C. (2015). Theory and method in linguistic ethnography. In J. Snell, S. Shaw, & F. Copland (Eds.), *Linguistic ethnography interdisciplinary explorations* (pp. 14–50). Palgrave Macmillan. doi:10.1057/9781137035035_2

Tusting, K. (Ed.). (2023). *The Routledge handbook of linguistic ethnography*. Routledge.

KEY TERMS AND DEFINITIONS

Confidentiality: Ethical principle of protecting participants' privacy and data in research.

Ethnography: Study method where researchers immerse in a culture to understand its behaviours and beliefs.

Field note: Written record by a researcher during or after observations in the field.

Interview: Structured conversation between a researcher and participant to gather information.

Observation: Systematic watching and noting of behaviours or events without interference.

Privacy: Right to control access to personal information and activities.

Ethnography

Chapter 10

Narrative Inquiry

Cuong Huy Pham

 <https://orcid.org/0000-0001-6876-0493>

Faculty of English, Ho Chi Minh City University of Economics and Finance, Vietnam

ABSTRACT

Narrative inquiry has made significant contributions to contemporary research in applied linguistics for its versatility in accounting for the multiple voices of participants and offering contextually embedded insights into social phenomena. As narratives represent the accumulation of knowledge and experience within and across time, space and social relationships, this line of inquiry provides rich understandings of participants' lifeworld and their constructions of personal meaning. This chapter discusses the epistemology and ontology underpinning narrative research, the role of narrative inquirers and the ethical dilemmas they encounter. It then presents narrative frames, visually mediated narratives, and critical incident narratives as three prominent tools for data gathering, and recent empirical research to illuminate how they have been utilized for particular research purposes and in different contexts. The final section concerns three analytical approaches frequently adopted in narrative research including thematic analysis, discourse analysis, and narrative writing.

INTRODUCTION

Narrative inquiry provides a rich and holistic approach to exploring and gaining in-depth and nuanced understandings of human experiences, their lifeworld, and the complexity of social phenomena. It has gained prominence as a research approach in the field of applied linguistics since the beginning of the twenty-first century as “many researchers turn to narrative in order to free themselves from what they see as the methodological formalities of other approaches to qualitative research” (Benson, 2014, p. 156). Despite its growing popularity, the concept of narrative and the components of qualitative research remain inconsistently defined in various disciplines (Barkhuizen, 2011; Clandinin & Huber, 2010). Narratives are usually seen as stories that bring researchers and story tellers together in their collaborative construction of reality from which meaning is derived (Barkhuizen et al., 2014, p. 3). This practice partially departs from a constructionist view focusing on “the dynamic processes of world-building and versioning that suffuse all narratives” (Prior & Talmy, 2021, p. 9). In other words, each story results from storytellers’

DOI: 10.4018/979-8-3693-2603-9.ch010

Narrative Inquiry

relentless and proactive interaction with social others through the mediation of various socio-cultural elements that shape and project their experiences in their own ways. Pavlenko (2002, p. 214) adds that “narratives are not purely individual productions - they are powerfully shaped by social, cultural, and historical conventions as well as by the relationship between the storyteller and the interlocutor.” In telling stories, participants in narrative inquiry are thus engaged in an ongoing process of negotiating with the surrounding environment and particularly the researchers in meaning making. Such co-composed accounts also help to uncover the distinct cognitive, affective, and behavioral responses to the issue under investigation. Dwyer and Emerald (2017, p. 1) state that “the stories people live and tell are a rich source of knowing and meaning making.” They are sources of personal representation and meaning through which individuals reflect their own views, thinking, emotions, and idiosyncratic approaches to tackling incidents occurring in their lives. Narrative inquiry usually draws on multiple sources of data and methods such as life history interviews (Hayes, 2010; Liu & Li, 2023), autobiographies (Chan, 2017; Pavlenko, 2007; Tran et al., 2013), longitudinal studies (Pham, 2016; Shirvan et al., 2021), and narrative frames (Barkhuizen et al., 2014; Pham, 2020; Shelley et al., 2013). Such diversity in data types and research tools allows gaining in-depth insights into the complexity of language learning through “its embeddedness in the space-time routines of everyday life” of individual learners (Benson, 2021, p. 7).

This chapter aims to offer in-depth insights into narrative inquiry, including its theoretical and methodological underpinning and the ways in which this qualitative approach has been undertaken. It begins with a critical overview of the ontology and epistemology encompassing narrative research. It then delves into the role of narrative researchers and ethical considerations implicated in the research process. The main focus of the chapter is on the use of narrative frames, visual materials and critical incidents in gathering data and the empirical research employing these tools. The chapter proceeds with a detailed discussion on three prominent approaches to data analysis, i.e., thematic analysis, discourse analysis, and narrative writing. The chapter concludes with a summary of the key points presented, underlining the significance of narrative inquiry as an omnipotent approach to exploring intricate issues in applied linguistics and language education.

ONTOLOGY AND EPISTEMOLOGY OF NARRATIVE INQUIRY

As an interpretive approach, narrative inquiry seeks to explore human experiences in the process of meaning making and perception of reality through the stories they tell (Moen, 2006). Epistemologically, narrative research views truth as relative, multiple and situational (Dwyer & Emerald, 2017; Josselson, 2011) because “it is problematic to conceive an authentic, undistorted level of immediate experience, untainted by self-interpretation or by horizons of past and future” (Meretoja, 2014, p. 101). In other words, it is almost impossible for narrative researchers as well as those adopting the qualitative paradigm to obtain absolute truth; instead, narrative tools enable them to gain in-depth situated insights into diverse tenets of human lives through the individualized lens of participants and researchers. Further, Spector-Mersel (2010, p. 212) argues that “narrative epistemology has a clear conception of the circumstances in which our stories are produced.” The stories shared by participants vary from one person to another and are interlaced with other stories under the impact of their own sociocultural and historical backgrounds as well as other relational elements. In this vein, Josselson (2011, p. 224) notes

The stories that people tell about their lives represent their meaning making; how they connect and integrate the chaos of internal and momentary experience and how they select what to tell and how they link bits of their experience are all aspects of how they structure the flow of experience and understand their lives.

Evidently, the stories presented in narrative research are the selective products of the participants as they opt for what to share within the complexity of their social interaction and interpersonal relationships, and are then further crafted by researchers. Pavlenko (2007, p. 180) concurs with this view in that “the stories we tell are never fully our own - they are co-constructed for us and with us.” It stands to reason when Meretoja (2014, p. 90) comments that “narratives project a false order on the disorder of human existence.”

Ontologically, narrative inquiry subscribes to “a view of human experience in which humans, individually and socially, lead storied lives” (Connelly & Clandinin, 2006, p. 477). Similarly, Spector-Mersel (2010, p. 211) points out that “social reality is primarily a narrative reality” and “a mutual relationship exists between life and narrative”. It is obvious from these perspectives that narratives are representations of human lives and the lens through which reality is reflected. Connelly and Clandinin (2006) specify three common dimensions that constitutes narrative research including temporality, sociality, and place. Temporality refers to events in “temporal transition” (Connelly & Clandinin, 2006, p. 479) as events and people always have a past, present and future. Their behaviors or actions reveal their specific historical background, present commitments, and projections into the future. In agreement with this facet of time, Elliott (2005, p. 7) argues that “Stories rely on the presumption that time has a uni-linear direction moving from past to present to future.” Accounts or stories depicted in narrative inquiry are situated within specific time frames to showcase how events occur in transition. Situating narrative research in language education, Benson (2021) emphasizes its value in reflecting development and change over time, weaving learners’ language learning experiences into their life trajectories. Central to the second dimension is the social conditions against which the narratives are constructed. Whereas personal conditions concern an individual’s emotions, hopes, designs, reactions to life events, and their moral attributes, sociality entails existential conditions and environmental elements encompassing their life. As a result, narrative inquiry provides accounts of human experiences within a specific context and addresses the interplay between the person and surrounding factors. Sociality also embraces the relationship between participants and researchers. Moen (2006, p. 62) propounds that “creating a narrative implies a process whereby an accurate story that occurs in collaboration between the researcher and the research subject becomes fixed in a written text.” Narrative researchers are proactively engaged in the process of crafting meaning and negotiating purposes, outcomes, text types and ways of presenting findings that succinctly incorporate the stories as data or that construct vivid stories. The third dimension is related to the place or sequence of places that defines “the specific concrete, physical, and topological boundaries of place” where the research or events happen (Connelly & Clandinin, 2006, p. 480). In their view, participants’ experiences are always associated with a certain place that shapes the story they tell. However, as narrative inquiry is temporal and the place may change, researchers need to take into consideration such shifting conditions to delineate their impacts on participants’ experiences (Clandinin et al., 2007). As Downey and Clandinin (2020, p. 136) conclude, “in narrative inquiry the starting point is an attempt to understand an unfolding life in all of its temporal, social, cultural and contextual complexity as a means to better understand concrete situations.”

RESEARCHERS' ROLE IN NARRATIVE RESEARCH

Researchers' biases, personal assumptions and subjectivity have been found to be intrinsic properties of qualitative research that may undermine the trustworthiness a research project (Shenton, 2004; Stahl & King, 2020). Kennedy and Thornberg (2017, p. 61) state that "the researchers' involvement can yield novel and important findings as well as raise questions regarding the trustworthiness of the process." This issue is more conspicuous in narrative inquiry as researchers' voice is the red thread connecting all the details in the accounts proffered by the participants. Spector-Mersel (2010) notes that narrative research resembles other interpretive paradigms in the inseparability between researchers and the phenomenon under investigation. The stories told to them were specially created for their research purposes under their influence, either overtly or covertly. They participate in constructing the meaning out of the stories co-composed by them and the participants. Clandinin and Huber (2010) draw a distinction between two types of narrative researchers depending on their level of engagement. While some see themselves as a collaborator in reconstructing reality, others keep a distance from participants so that they can obtain an account that is not contaminated by themselves. In this vein, Dwyer and Emerald (2017, p. 7) reiterate that "the relationships between researcher and researched influence the types of data that are generated, and level of depth to which the data can be interrogated." This relational element in narrative inquiry has a dramatical impact on the richness and truthfulness of the accounts provided by participants. Researchers have to decide their degree of involvement in meaning making not only in data gathering but also in analyzing and interpreting the stories they collected. They have total authority over which stories and which details of the chosen stories to be included in presenting the findings. It is evident that throughout the whole research process, "narrative researchers elicit, co-construct, interpret, and, in their retelling, represent participants' accounts of lived and imagined personal experience" (Barkhuizen, 2011, p. 393).

ETHICAL CONSIDERATIONS

In carrying out narrative inquiry, researchers face many moral and ethical tensions that need to be resolved. Clandinin and Huber (2010, p. 440) state that "narrative inquirers understand that a person's lived and told stories are who they are and who they are becoming and that these stories sustain them". This gives rise to the issue of anonymity and confidentiality of the participants as their own stories and personal life are apparently disclosed and exposed in the findings (Elliott, 2005). It is crucial that their identities and other identifiable features such as the research location and their workplaces be blurred or hidden to preserve their privacy. Further, narrative research involves making choices in terms of data gathering and presentations of findings to bring to the fore the most salient and intriguing elements within the complexities of participants' lifeworld. Hunter (2010, p. 45) exhorts that "whether these are made overt or kept covert, the moral and ethical stance of the researcher is believed to influence the co-construction process." Narrative researchers proactively participate in eliciting data, co-composing meaning and interpreting the collected data through their own stance as this research paradigm allows them to have a high level of engagement with the research phenomenon and participants. They may encounter the risk of being so deeply immersed in the research process and relationships with participants that they overlook their role as researchers who are expected to refrain themselves from imposing personal perspectives and biases. Another risk provoked by researchers' subjective interpretation of narratives is generally labelled as "smoothing" whereby they are inclined to report a positive result without much

consideration of the indications of data (Webster & Mertova, 2007, p. 109). Therefore, it is important that researchers “be reflexive and interrogate how they influence and are influenced by the research process” (Costa et al., 2021, p. 5).

As relationships are a central tenet of the research process, narrative researchers are committed to ongoing negotiation of roles and responsibilities (Park et al., 2016). This demands a change in researchers’ view of participants not as passive providers of data but as active co-researchers who work collaboratively with them in making meaning. As such, ethics in narrative inquiry is conceived of as “relational ethics” marked by responsiveness and short-term as well as long-term responsibilities implicated in the “interplay and engagement between researchers and participants as they live in the field, compose and co-compose field texts, and as they engage in the inquiry into the field texts that moves them towards co-composing research texts” (Clandinin & Caine, 2013, p. 169). This relationship shapes the ways in which experiences are shared and understood on the basis that “negotiation and collaboration reinforce the importance of reciprocity and equity” (Park et al., 2016, p. 6). Another aim driving the collaboration between researchers and participants is to minimize the potential discrepancies between the story elicited and the narrative reported in the findings (Ollerenshaw & Creswell, 2002). This is significant as researchers are committed to representing the stories told in the most authentic manner, capturing the intended meaning and other emotional as well as attitudinal nuances.

NARRATIVE FRAMES

A growing body of qualitative research has adopted narrative frames as an effective tool for gaining in-depth insights into the research phenomenon through the diverse stories constructed by participants from their own perspectives. By definition, a narrative frame is a written story template structured in a skeletal form with incomplete sentences and spaces for participants to fill in (Barkhuizen, 2011). Narrative frames scaffold them in developing story structure and content that aligns with the research purpose. The product is not a stifled story because participants can enjoy the flexibility of the spaces provided where they utilize their creativity to write a coherent story based on their lived experiences and personal reflections in a specific context. Narrative frames been found to be particularly useful for entering the lifeworld of participants to see how it is personally perceived as Barkhuizen (2014, p. 13) argues that “Stories represent the meanings storytellers make of their experiences. In telling stories people make sense of the events in the lives they have lived or they imagine living. In the re-telling they shape and re-shape those experiences.” The two distinctive features that mark the differences between narrative frames and other qualitative approaches consist in the nature of the data and the data analysis (Barkhuizen & Wette, 2008). The data embraces the three epistemological dimensions of narrative research put forward by Connelly and Clandinin (2006) including temporality, sociality, and place as discussed earlier. Narratives encapsulate the experiences of participants that are temporally connected in their reflections of past, present and future events. Each story has a beginning, a middle and an end illustrating participants’ recollections of experiences, current events, and projections of future actions through their social interaction (i.e. sociality) in specific physical settings (i.e. place). For the data analysis, as Barkhuizen and Wette (2008, p. 374) state, a range of methodological procedures can be employed with the main aim of capturing participants’ lived experiences and “the action of their lives in a particular time and space and with other people.” Although narrative frames have several strengths in terms of the richness of the data, the ease of analysis as well as the adequate lengths and relevance of the completed responses, they

Narrative Inquiry

exhibit some limitations. Developing a good narrative frame can be a daunting endeavor because of the challenges in deciding on the length of the space in relation to the prompts, the limited opportunities for discussing ideas not included in the frame and the potential inconsistency between the frame structure and participants' writing styles (Barkhuizen, 2014).

Narrative frames have been employed to investigate a range of topics in applied linguistics in diverse contexts and with different types of participants. Hiratsuka (2014) uses this tool to explore the EFL learning experiences of 36 second-year high school students in Japan. The narrative frames were distributed to the students after they finished watching a five-minute video clip from a previous class that the researcher videotaped. They were asked to reflect on their experiences in the class, their teachers and themselves, state the reasons behind their comments, and propose suggestions for future classes by filling in the space provided. Hiratsuka (2014) find that narrative frames facilitated data management and data analysis as the data followed the designated structure, guided content, and desired length. It was also an opportunity for the students to practice writing text in English that has personal attachment. The narrative frames encouraged the students to embark on critical reflections and made them become more responsible learners. In another study drawing on the same approach, Pham (2020) invited three EFL teachers from three universities in Vietnam to report on their agentive adoption of information communication technology in their teaching. The frames elicited narrative data on three different timescales, i.e., pre-adoption, actual adoption, and future projections. The narratives showed that the teachers' critical reflections of their past and present practices as well as their future anticipation as they appraised the available resources, the opportunities, and constraints in their own settings. These studies provide corroborating evidence supporting the employment of narrative frames in qualitative research and their versatility in assisting participants in generating data that aligns with the research aim in a structured manner.

VISUALLY MEDIATED NARRATIVES

Visual materials, such as images, drawings, paintings, diagrams, charts, and other visual prompts, have been extensively used to add further dimensions to the depth and richness of qualitative data. According to Riessman (2008, p. 142), "visual representations of experience ... can enable others to see as a participant sees, and to feel." Images and other visually mediated forms employed in narrative inquiry have been found to engage participants more effectively in the data collection process and offer participants an opportunity to articulate their thinking and beliefs in a distinct channel that may not be achieved through verbal means (Chik, 2017; Kalaja et al., 2013; Mannay, 2016). Visually mediated narratives lay their emphasis on not only the story implicated in an image but also the process of creating the image and the ways in which it is interpreted by various audiences (Riessman, 2008). Narrative inquiry subscribing to the visual approach can be conducted in two different ways, either as visual narratives or photo-elicitation (Greenier & Moodie, 2021). The former refers to images that entail stories and open different interpretations whereas the latter uses photos as the basis for eliciting narrative data usually as part of an interview. The input from participants results from the meaning making process that contributes to transforming their views and perspectives into visual representations or facilitating their storytelling through the photo prompts. While photo narratives draw on participants' personal experiences and perspectives (Kalaja et al., 2013), photo-elicitation promotes free construction of meaning and deep reflections as well as triggers participants' memories (Torre & Murphy, 2015). In the same vein, Greenier and Moodie (2021, p. 4) maintain that photographs can function as "conduits for producing more vivid accounts and can

help the researcher better visualize and connect to the story” and “a mechanism for meaning making.” However, Kalaja et al. (2013, p. 127) warn that researchers adopting a visually mediated approach should “collect and analyze more than one type of data (i.e. triangulation) or to ask a question in more than one form to get a fuller picture of the phenomenon under study.”

Kalaja et al. (2013) review four studies, three of which were conducted by themselves, and the other was undertaken by other researchers who were inspired by their research. The studies were the researchers’ initial experiments with visual materials in collecting narrative data from pre-service teachers and learners of different foreign languages, at different ages, and with different nationalities. The participants in these studies were asked to generate visual illustrations such as drawings, self-portraits, and collages of photos from magazines, based on a given theme. Then they would have to write their own description or interpretation in the space provided under the frame for each drawing. It was observed that the participants’ visual representations were “multivoiced, both in the sense of inter-individual variation and also in the sense of intra- individual embeddedness” (Kalaja et al., 2013, p. 22). The visual narratives produced by the participants illustrated diverse perspectives from which the participants constructed personal meaning. Regarding the use of photos as a means of gathering narrative data, Weng and Troyan (2023) adopted the photo-elicitation technique to encourage teacher candidates to reflect on their emotional experiences. In their view, this technique “captures richer data for analysis by stimulating deeper recall of information, which may reduce misunderstandings” (Weng & Troyan, 2023, p. 5). They proposed four tasks that engaged teacher candidates in collecting and choosing photos that depicted their experiences prior to, during, and after a teacher training program. As argued by these researchers, the selected photos were the rich sources for the teachers to express their emotions and identity. The studies summarized so far have indicated various possibilities of employing visually mediated narratives to delve into both simple and complex issues in applied linguistics.

CRITICAL INCIDENT NARRATIVES

Another powerful approach utilized in narrative inquiry is the analysis of critical incidents embedded in participants’ narratives. Critical incidents are associated with unanticipated events marking emotionally charged milestones during people’s lives that may have a significant impact or shift their perspectives, attitudes and behavior (Gkonou & Miller, 2020; Webster & Mertova, 2007). Such an event is a change experience that refreshes their knowledge of the world and is likely to commit themselves to a new course of action. Critical incidents can vary in their intensity, impacts, and storytellers’ conceptualization of what constitutes a turning point in their life. They can be viewed as “vivid happenings” with a positive connotation, “a problematic situation that presents itself as a unique case and promotes reflection,” or key moments that provoke change and development (Halquist & Musanti, 2010, pp. 449-450). For an event to be treated as being critical, its underlying meaning must be unveiled to highlight the life-changing moments implicated in the stories told as Angelides (2001, p. 431) states “criticality is based on the justification, the significance, and the meaning given to them.” Analyzing narratives by mining the critical incidents out of what is usually taken for granted can be a laborious process but rewarding since it allows researchers to “document, represent, and interpret the narratives and to capture the dynamic” of participants’ interactions in their daily and professional lives (Halquist & Musanti, 2010, p. 451). Further, Bruster and Peterson (2013) comment on the value of the critical incident narratives in enabling participants to offer a more reflective account, moving from a mere description of an event to a more

Narrative Inquiry

critical evaluation drawing on multiple perspectives. The story in the form of critical incidents is open to various interpretations and angles of reflection that contribute to illuminating the phenomenon under investigation with thick description. This approach can be employed to uncover the immediate meaning of certain incidents or view turning points along participants' life as a "continuum of the development of critical reflection" (McAllister et al., 2006, p. 372). For the former, each critical incident is analyzed and interpreted to focus on its immediacy and salience to participants' lives and future action. The latter observes participants' trajectories as they progress and how every single event culminates in their ongoing reflections.

In their research, Gkonou and Miller (2020) employ the storytelling of critical incidents from 13 English language teachers working in tertiary education programs in the US and the UK to explore their retrospection on their past language teaching practices, emotional experiences and ethical dilemmas. These researchers relied on semi-structured interviews with a focus on participants' current responsibilities, the positive and negative aspects affecting their teaching career, and their strategies for emotional management. Although critical incidents were not originally incorporated in the methodological design, they emerged with a high frequency as the teachers unfolded their stories. The findings of this study addressed the significance of critical incident narratives as a vehicle for the teachers to release their emotional responses to different classroom situations. In concluding their study, Gkonou and Miller (2020) propounded that "the recounted and lived critical incidents are cast as enabling the participating teachers to become more effective and successful practitioners." In a similar study, Derakhshan and Nazari (2023) focus on the emotional critical incidents embedded in a novice Iranian teacher's narratives as one of the research methods they employed to examine the role of emotions in her identity construction. Through the duration of one year working with the participant, the researchers recorded 23 critical incidents and other types of data that revealed the ongoing interplay between these emotional events and her shifting belief and identity development. However, as the researchers acknowledged, their study only presented the negative critical incidents that impacted the teachers' emotional experiences and identity formation. Future research can adopt a more balanced stance by taking account of both positive and negative critical incidents. These studies have pointed to the fact that critical incident narratives can be utilized as a primary tool or combined with other methods for gaining rich insights into the investigated issue.

DATA ANALYSIS

Fallen within the interpretive qualitative paradigm, approaches to analyzing narrative data resemble other types of qualitative research and depend largely on the researchers' purpose, the target readership, and the overarching context of the study (Barkhuizen et al., 2014). As Josselson (2011, p. 225) notes, "narratives are understood contextually, as influenced by the circumstances under which they were obtained, with consideration given to the intended audience and the motives the narrator may have had for constructing the narrative in a particular way." Researchers shed light on the data through their own interpretive lens and the sociocultural and relational backdrop against which it was constructed to address the complexity of human life embracing the phenomenon under investigation. This accounts for the diverse perspectives from which data can be examined and opens up novel avenues of inquiry rather than providing an articulate answer to a research problem (Benson, 2014). Polkinghorne (1995) classifies narrative inquiry into two types: "paradigmatic analysis" whereby narratives are utilized as data for identifying common themes or conceptual manifestations and "narrative analysis" in which researchers

analyze and synthesize non-narrative data to produce a coherent developmental account. Although this distinction is useful for determining the ways in which data is scrutinized and findings are presented, Barkhuizen et al. (2014) find it confusing as non-narrative data, such as interviews, diaries or reflective journals, can also contribute to creating stories for paradigmatic analysis. Instead, these authors propose three analytical approaches: thematic analysis of the content of narratives, discourse analysis of the structure and language of narratives, and narrative writing. The first two approaches align with Elliott's (2005) approaches that focus on content of narratives and form or structure of narratives respectively. Thematic analysis is a process of thoroughly scrutinizing data, generating codes, collating codes into themes, defining and naming themes, and supporting these themes with narrative extracts. As it has been discussed in detail in Chapter 5 (Qualitative data analysis), this section is specifically devoted to the other two approaches.

In the discourse analysis approach, researchers focus on structural elements of the narrative genre to elicit meaning. They can rely on the typical structure and key elements of a story such as time, place, plot, and scene to identify emerging themes or categories (Ollershaw & Creswell, 2002). Similarly, Hennink et al. (2020, p. 276) state that the analysis of narrative structure also involves "identifying how the story is told, the language used, its temporal order and flow (e.g., biographical details, chronology of events, turning points, the main plot and actors)." Alternatively, Barkhuizen et al. (2014) provide a critical review of analytical elements that can be elicited from narrative discourse such as metaphors, organizational features of participants' discourse, interpretive repertoires, short narratives (also labelled as small stories) occurring in natural spoken interaction, interactional features, or participants' positioning levels identified in the stories they share. However, Benson (2014) warns that analyzing these features is not an easy task because researchers need to go beyond discourse analysis to arrive at conclusions. To see the thematic relations among these discursive aspects requires narrative researchers to take account of "how the whole illuminates the parts, and how the parts in turn offer a fuller and more complex picture of the whole, which then leads to a better understanding of the parts" (Josselson, 2011, p. 227).

As for narrative writing, researchers create narratives based on the analysis of different sources of data. This is not simply the act of retelling one or more stories from the voluminous and sometimes messy non-narrative data, but researchers have to ensure coherence throughout the accounts they re-produce. The analytical process involves "collect[ing] descriptions of events and happenings and synthesiz[ing] or configur[ing] them by means of a plot into a story or stories" (Polkinghorne, 1995, p. 12). Central to this task is discovering a plot that gives meaning to the data and brings separate pieces of data together into a united, seamless, and coherent account. Researchers are engaged in a series of activities related to "piecing together data, making the invisible apparent, deciding what is significant and insignificant, and linking seemingly unrelated facets of experience together" (Josselson, 2011, p. 227). Like paradigmatic analysis, narrative writing gives researchers the power in choosing what to report, what to omit, and how to organize the findings (Barkhuizen, 2011, p. 407). However, in contrast to the paradigmatic approach that relies on established methods such as thematic or discourse analysis, this analytical approach generates findings in the form of "historical accounts, case studies, or storied episodes of people's lives" (Barkhuizen et al., 2014, p. 84). This is an issue that Benson (2014, p. 163) raises as he questions its ability to "encapsulate the findings of a research project" merely via a story. Sharing this view, Polkinghorne (1995, p. 16) discerns the challenge of narrative writing as "the final story must fit the data while at the same time bringing an order and meaningfulness that is not apparent in the data themselves." In other words, the outcome of narrative analysis is the fine-grained story with

Narrative Inquiry

a carefully crafted plot derived from the data that offers a contextualized and unique way to shed light on the phenomenon under investigation.

CONCLUSION

Narrative inquiry is evidently a rigorous research approach to understanding complicated and nuanced human experiences that are situated in their own socio-cultural context and a nexus of interpersonal relationships. It is highly useful for delving into individualized process of seeking personal meaning and values through day-to-day interactions with social others. The chapter discussed the epistemology and ontology guiding narrative inquiry, reiterating the subjective and socially mediated nature of reality and knowledge development. Reality is seen as relative, multifaceted, and situated in a temporal, spatial and social nexus. Each narrative is a representation of an individual's ongoing construction and reconstruction of meaning. Narrative researchers' roles and ethical issues arising in undertaking narrative inquiry were also addressed as integral dimensions in the interpretive paradigm. Three prominent data gathering tools for narrative inquiry and recent research employing them were presented with a view to substantiate the way in which they have been implemented. While narrative frames provide participants with prompts that facilitate their storytelling, images and other graphic illustrations can be used either as prompts for generating narrative data or as visual narratives that capture participants' stories. Similarly, critical incident narratives depict important turning points as they unfold and reflect on their lives. The chapter ended with a detailed description of approaches to data analysis that aim to offer readers an opportunity to live the life of others, experience the complex tapestry of human relationships and observe their trajectories in a vivid manner. Although the narrative approach has been widely adopted in contemporary literature, it will continue to be used as a powerful and versatile tool for future research following the qualitative paradigm in exploring complex and dynamic issues in applied linguistics and language education.

REFERENCES

- Angelides, P. (2001). The development of an efficient technique for collecting and analyzing qualitative data and the analysis of critical incidents. *International Journal of Qualitative Studies in Education : QSE*, 14(3), 429–442. doi:10.1080/09518390110029058
- Barkhuizen, G. (2011). Narrative knowledging in TESOL. *TESOL Quarterly*, 45(3), 391–414. doi:10.5054/tq.2011.261888
- Barkhuizen, G. (2014). Revisiting narrative frames: An instrument for investigating language teaching and learning. *System*, 47, 12–27. doi:10.1016/j.system.2014.09.014
- Barkhuizen, G., Benson, P., & Chik, A. (2014). *Narrative inquiry in language teaching and learning research*. Routledge.
- Barkhuizen, G., & Wette, R. (2008). Narrative frames for investigating the experiences of language teachers. *System*, 36(3), 372–387. doi:10.1016/j.system.2008.02.002

- Benson, P. (2014). Narrative inquiry in applied linguistics research. *Annual Review of Applied Linguistics*, 34, 154–170. doi:10.1017/S0267190514000099
- Benson, P. (2021). Space in narrative inquiry on second language learning. *System*, 102, 1–8. doi:10.1016/j.system.2021.102602
- Bruster, B. G., & Peterson, B. R. (2013). Using critical incidents in teaching to promote reflective practice. *Reflective Practice*, 14(2), 170–182. doi:10.1080/14623943.2012.732945
- Chan, E. Y. M. (2017). Narrative inquiry: A dynamic relationship between culture, language and education. *The Australian Journal of Teacher Education*, 46(2), 22–34. doi:10.14221/ajte.2017v42n6.2
- Chik, A. (2017). Beliefs and practices of foreign language learning: A visual analysis. *Applied Linguistics Review*, 9(2-3), 1–25. doi:10.1515/applirev-2016-1068
- Clandinin, D. J., & Caine, V. (2013). Narrative inquiry. In A. A. Trainor & E. Graue (Eds.), *Reviewing qualitative research in the social sciences* (pp. 166–179). Routledge.
- Clandinin, D. J., & Huber, J. (2010). Narrative inquiry. In B. McGraw, E. Baker, & P. Perterso (Eds.), *International encyclopedia of education* (3rd ed., pp. 436–441). Elsevier. doi:10.1016/B978-0-08-044894-7.01387-7
- Clandinin, J., Pushor, D., & Orr, A. M. (2007). Navigating sites for narrative inquiry. *Journal of Teacher Education*, 58(1), 21–35. doi:10.1177/0022487106296218
- Connelly, F. M., & Clandinin, D. J. (2006). Narrative inquiry. In J. L. Green, G. Camilli, & P. Elmore (Eds.), *Handbook of complementary methods in education research* (pp. 477–487). Lawrence Erlbaum.
- Costa, P. I. D., Randez, R. A., Her, L., & Green-Eneix, C. A. (2021). Navigating ethical challenges in second language narrative inquiry research. *System*, 102, 1–9. doi:10.1016/j.system.2021.102599
- Derakhshan, A., & Nazari, M. (2023). “I am fed up with the criticisms”: Examining the role of emotional critical incidents in a novice teacher’s identity construction. *The Asia-Pacific Education Researcher*, 32(4), 449–458. doi:10.1007/s40299-022-00666-1
- Downey, C. A., & Clandinin, D. J. (2020). Narrative inquiry as reflective practice: Tensions and possibilities. In D. J. Clandinin (Ed.), *Journeys in narrative inquiry* (pp. 130–146). Routledge.
- Dwyer, R., & Emerald, E. (2017). Narrative research in practice: Navigating the terrain. In R. Dwyer, I. Davis, & E. Emerald (Eds.), *Narrative research in practice: Stories from the field* (pp. 1-26). Springer. doi:10.1007/978-981-10-1579-3_1
- Elliott, J. (2005). *Using narrative in social research: Qualitative and quantitative approaches*. Sage Publications. doi:10.4135/9780857020246
- Gkonou, C., & Miller, E. R. (2020). ‘Critical incidents’ in language teachers’ narratives of emotional experience. In C. Gkonou, J.-M. Dewaele, & J. King (Eds.), *The emotional rollercoaster of language teaching* (pp. 131–149). Multilingual Matters. doi:10.21832/9781788928342-012
- Greenier, V., & Moodie, I. (2021). Photo-narrative frames: Using visuals with narrative research in applied linguistics. *System*, 102, 1–12. doi:10.1016/j.system.2021.102597

Narrative Inquiry

- Halquist, D., & Musanti, S. I. (2010). Critical incidents and reflection: Turning points that challenge the researcher and create opportunities for knowing. *International Journal of Qualitative Studies in Education : QSE*, 23(4), 449–461. doi:10.1080/09518398.2010.492811
- Hayes, D. (2010). Language learning, teaching and educational reform in rural Thailand: An English teacher's perspective. *Asia Pacific Journal of Education*, 30(3), 305–309. doi:10.1080/02188791.2010.495843
- Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative research methods* (2nd ed.). Sage.
- Hiratsuka, T. (2014). A study into how high school students learn using narrative frames. *ELT Journal*, 68(2), 169–178. doi:10.1093/elt/cct096
- Hunter, S. V. (2010). Analysing and representing narrative data: The long and winding road. *Current Narratives*, 1(2), 44–54.
- Josselson, R. (2011). Narrative research: Constructing, deconstructing, and reconstructing story. In K. Charmaz, L. M. McMullen, R. Josselson, R. Anderson, & E. McSpadden (Eds.), *Five ways of doing qualitative analysis* (pp. 224–242). The Guilford Press.
- Kalaja, P., Dufva, H., & Alanen, R. (2013). Experimenting with visual narratives. In G. Barkhuizen (Ed.), *Narrative research in applied linguistics* (pp. 105–131). Cambridge University Press.
- Kennedy, B. L., & Thornberg, R. (2017). Deduction, induction, and abduction. In U. Flick (Ed.), *The Sage handbook of qualitative data collection* (pp. 49–64). Sage.
- Liu, Y., & Li, X. (2023). A narrative inquiry of transnational language teachers' professional identity construction. *Journal of Language, Identity, and Education*, 1–18. doi:10.1080/15348458.2022.2160332
- Mannay, D. (2016). *Visual, narrative and creative research methods: Application, reflection and ethics*. Routledge.
- McAllister, L., Whiteford, G., Hill, B., Thomas, N., & Fitzgerald, M. (2006). Reflection in intercultural learning: Examining the international experience through a critical incident approach. *Reflective Practice*, 7(3), 367–381. doi:10.1080/14623940600837624
- Meretoja, H. (2014). Narrative and human existence: Ontology, epistemology, and ethics. *New Literary History*, 45(1), 89–109. doi:10.1353/nlh.2014.0001
- Moen, T. (2006). Reflections on the narrative research approach. *International Journal of Qualitative Methods*, 5(4), 56–69. doi:10.1177/160940690600500405
- Ollerenshaw, J. A., & Creswell, J. W. (2002). Narrative research: A comparison of two restorying data analysis approaches. *Qualitative Inquiry*, 8(3), 329–347. doi:10.1177/10778004008003008
- Park, E., Caine, V., McConnell, D., & Minaker, J. (2016). Ethical tensions as educative spaces in narrative inquiry. *Forum Qualitative Sozialforschung/Forum: Qualitative. Social Research*, 17(2), 1–19. doi:10.17169/fqs-17.2.2571
- Pavlenko, A. (2002). Narrative study: Whose story is it, anyway? *TESOL Quarterly*, 36(2), 213–218. doi:10.2307/3588332

- Pavlenko, A. (2007). Autobiographic narratives as data in applied linguistics. *Applied Linguistics*, 28(2), 163–188. doi:10.1093/applin/amm008
- Pham, C. H. (2016). *An ecological perspective on the motivational trajectories of high school students learning English in rural areas in Vietnam*. Massey University.
- Pham, C. H. (2020). Narrative inquiry into language teachers' agentive adoption of information and communications technology. *Computer-Assisted Language Learning Electronic Journal*, 21(3), 60–73.
- Polkinghorne, D. E. (1995). Narrative configuration in qualitative analysis. *International Journal of Qualitative Studies in Education : QSE*, 8(1), 5–23. doi:10.1080/0951839950080103
- Prior, M. T., & Talmy, S. (2021). A discursive constructionist approach to narrative in language teaching and learning research. *System*, 102, 1–11. doi:10.1016/j.system.2021.102595
- Riessman, C. K. (2008). *Narrative methods for the human sciences*. Sage Publications.
- Shelley, M., Murphy, L., & White, C. (2013). Language teacher development in a narrative frame: The transition from classroom to distance and blended settings. *System*, 41(3), 560–574. doi:10.1016/j.system.2013.06.002
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63–75. doi:10.3233/EFI-2004-22201
- Shirvan, M. E., Taherian, T., Shahnama, M., & Yazdanmehr, E. (2021). A longitudinal study of foreign language enjoyment and L2 grit: A latent growth curve modeling. *Frontiers in Psychology*, 12, 1–11. doi:10.3389/fpsyg.2021.720326 PMID:34526939
- Spector-Mersel, G. (2010). Narrative research: Time for a paradigm. *Narrative Inquiry*, 20(1), 204–224. doi:10.1075/ni.20.1.10spe
- Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding and using trustworthiness in qualitative research. *Journal of Developmental Education*, 44(1), 26–28.
- Torre, D., & Murphy, J. (2015). A different lens: Using photo-elicitation interviews in education research. *Education Policy Analysis Archives*, 23(111), 1–22.
- Tran, T. T. T., Baldauf, R. B. J. Jr, & Moni, K. (2013). Foreign language anxiety: Understanding its status and insiders' awareness and attitudes. *TESOL Quarterly*, 47(2), 216–243. doi:10.1002/tesq.85
- Webster, L., & Mertova, P. (2007). *Using narrative inquiry as a research method: An introduction to using critical event narrative analysis in research on learning and teaching*. Routledge. doi:10.4324/9780203946268
- Weng, Z., & Troyan, F. J. (2023). Developing language teacher identity through photo-elicitation in TESOL teacher education. *TESOL Journal*, 14(3), 1–12. doi:10.1002/tesj.714

ADDITIONAL READING

Canagarajah, S. (2021). Materializing narratives: The story behind the story. *System, 102*, 1–10. doi:10.1016/j.system.2021.102610

Castellano, J. (2023). Eliciting students' stories: Student perspectives on anecdote materials. *TESOL Journal, 14*(1), 1–19. doi:10.1002/tesj.695

Consoli, S. (2021). Uncovering the hidden face of narrative analysis: A reflexive perspective through MAXQDA. *System, 102*, 1–16. doi:10.1016/j.system.2021.102611

Nazari, M., & Karimpour, S. (2023). Emotions, perspectives, and English language teacher identity construction: A phenomenographic-narrative study. *International Journal of Applied Linguistics, 33*(2), 150–168. doi:10.1111/ijal.12455

Parks, P. (2023). Story circles: A new method of narrative research. *American Journal of Qualitative Research, 7*(1), 58–72. doi:10.29333/ajqr/12844

KEY TERMS AND DEFINITIONS

Critical Incident: An unanticipated event that provokes participants' emotional responses and may have a significant impact on their lives or shift their perspectives, attitudes and behavior.

Narrative Analysis: Analysis of non-narrative data, such as interviews, diaries, or reflective journals, to create a coherent developmental account.

Narrative Frame: A written story template structured in a skeletal form with incomplete sentences and spaces for participants to fill in.

Narrative Inquiry: A rich and holistic approach to exploring and gaining in-depth and nuanced understandings of human experiences, their lifeworld, and the complexity of social phenomena through the narratives shared by participants or the stories woven in non-narrative data.

Paradigmatic Analysis: Analysis of participants' narratives as data for identifying common themes or conceptual manifestation.

Chapter 11

Action Research

Chau Thi Hoang Hoa

 <https://orcid.org/0000-0002-5738-9147>

Tra Vinh University, Vietnam

ABSTRACT

This chapter delves into the significance of action research on the professional growth of English as a foreign language (EFL) teachers. The chapter begins by defining action research and distinguishing it from traditional research designs. The chapter further explores a variety of action research models, which these models are presented not just as theoretical constructs but as practical tools that EFL teachers can use to enhance their teaching practices. Finally, the chapter addresses the practical challenges and limitations associated with implementing action research in the EFL teaching context. It acknowledges that while action research offers a robust framework for teacher development and pedagogical improvement, there are hurdles in terms of understanding, selecting, and applying the most appropriate model. The chapter also recognizes its own limitations, notably its lack of comprehensive, step-by-step guidelines for action research application, and its focus on overarching concepts rather than detailed problem-solving strategies.

INTRODUCTION

Action research has been well documented in the literature to play a pivotal role in the professional development of teachers, as it enables them to define and solve problems, and learn from their experiences. Action research helps teachers gain insights and cultivate reflective practices that positively impact student outcomes and contribute to the overall enhancement of educational practices (Thorne & Qiang, 1996). Action research empowers teachers in adopting effective pedagogical practices, thus improving the quality of their teaching decisions and actions, and ultimately enhancing their teaching efficacy (Nasrollahi et al., 2012). In language teaching education, doing action research offers opportunities for systematic and valuable “change-action” and findings that can benefit language education (Consoli & Dikilitaş, 2021). Engaging in action research empowers language teachers to refine their professional judgment and autonomy, facilitating the exploration of new teaching strategies and fostering a shift in knowledge generation paradigms (Nasrollahi et al., 2012). Teacher action allows teachers to tailor their

DOI: 10.4018/979-8-3693-2603-9.ch011

Action Research

research to their own specific teaching context, making the findings more relevant and applicable to their own teaching practice. Additionally, teacher action research is characterized by a continuous, iterative process of inquiry, enabling educators to consistently reflect on and enhance their teaching practices over time (Wallace, 2000). This cyclical nature of action research allows for ongoing adjustments and improvements, ensuring that teaching strategies remain responsive to the evolving needs of students and the educational environment.

Despite these advantages and the practicality of action research in EFL (English as a Foreign Language) education, there is a notable gap in its recognition and documentation in Vietnam's educational context (Quyen & Yen, 2018). This chapter aims to provide insights into action research. It is organized around three primary areas of focus. The first section offers an overview of action research, providing fundamental information about action research. The second section delves into the implementation of action research, discussing various models and activities essential for each stage of the research process. Lastly, the third section addresses the challenges and concerns that teacher-researchers might encounter in both understanding and conducting action research, with a specific focus on the EFL context.

THE ROOTS AND EVOLUTION OF ACTION RESEARCH

The history of action research can be traced back to Lewin's (1946) work, "Action Research and Minority Problems". Lewin's work laid the foundation for the concept of "action research". Lewin described action research as "comparative research on the conditions and effects of various forms of social action and research leading to social action" that uses "a spiral of steps, each of which is composed of a circle of planning, action and fact-finding about the result of the action". Action research, as understood through Lewin's perspective, can be defined as a collaborative and systematic inquiry conducted by practitioners (such as teachers, managers, or community organizers) within their own environment or context to solve real-life problems, improve practices, or enhance understanding.

In the same line, action research is defined as a methodological approach commonly used in various fields, including education, to improve practices and address issues or problems through a cycle of planning, acting, observing, and reflecting (Stringer, 2014). To McNiff (2013), action research is characterized by its focus on practical solutions driven by collaborative, participatory methods. It often involves a cycle where the researcher identifies a problem, plans an intervention, implements the intervention, observes the effects, and reflects on the process. This cycle can be repeated to refine the approach continually.

In the context of language education, action research is particularly useful. Language educators use action research to explore teaching methodologies, develop curriculum, enhance student engagement, and address specific language learning challenges (Burns, 2010). It allows educators to adapt to the unique needs of their students and the dynamic nature of language learning. For example, a language teacher might use action research to implement and refine a new teaching strategy for vocabulary acquisition, gather data on its effectiveness, and make adjustments based on student outcomes and feedback.

THE IMPORTANCE OF ACTION RESEARCH TO EFL TEACHERS

The significance of action research in the realm of EFL teaching extends far beyond mere pedagogical experimentation. It profoundly impacts professional development and student learning outcomes in multiple dimensions.

First, action research enhances classroom practices by empowering EFL teachers to critically reflect on their teaching methodologies. Through this reflective process, educators can pinpoint and implement teaching strategies tailored to the unique needs of their language learners. By fostering a dynamic learning environment centered around student engagement, action research facilitates more effective educational experiences that promote language acquisition and proficiency (Brown et al., 2020; Smith & Johnson, 2018).

Moreover, action research promotes the formation of collaborative learning communities among EFL teachers, students, and other educational stakeholders. By working together, educators can share insights, pool resources, and cultivate a culture of shared learning and innovation. This collaborative approach enriches the quality of language education by drawing from diverse perspectives and experiences, ultimately benefiting both teachers and students alike (Chen et al., 2021; Gomez & Lee, 2019).

Furthermore, action research serves as a catalyst for personalized professional development among EFL teachers. By addressing specific challenges or areas of interest in their teaching practices, educators can tailor their professional growth to meet their unique needs and circumstances. Through a continuous cycle of reflection and evaluation, action research ensures that professional development remains directly relevant to the evolving demands of the classroom (Nguyen & Smith, 2017; Kim & Patel, 2022).

Besides, engaging in action research also empowers EFL teachers as agents of change within their educational environments. By proactively identifying and implementing improvements in teaching methods, curriculum design, and student engagement strategies, educators can catalyze positive transformations that enhance the overall effectiveness of the educational process (Jones & Wang, 2018).

Additionally, the iterative nature of action research aligns seamlessly with the dynamic nature of the EFL classroom. Through ongoing assessment and adjustment of teaching strategies based on student feedback, EFL teachers can continuously refine their approaches to meet the evolving needs of their learners. This commitment to continuous improvement ensures that action research remains a relevant and effective tool for enhancing teaching and learning outcomes over time (Tran & Brown, 2019; Wang et al., 2020).

Overall, the impact of action research on language education transcends individual classrooms. It contributes significantly to the advancement of the field as a whole. By embracing collaborative, reflective, and evidence-based practices, EFL teachers can address complex challenges, implement positive changes, and elevate the standard of English language instruction for diverse learners around the globe.

ACTION RESEARCH VERSUS TRADITIONAL RESEARCH IN LANGUAGE EDUCATION

Action research offers significant advantages to teachers by prioritizing contextual relevance, active engagement, collaborative participation, practical problem-solving, and adaptability to unexpected outcomes. First, it allows educators to tailor investigations to the unique cultural, linguistic, and educational settings of their classrooms, ensuring that research outcomes directly inform teaching practices

Action Research

(Smith et al., 2018; Johnson & Lee, 2019). Second, through active engagement in the research process, teachers can promptly utilize their findings to enhance instructional methods, leading to immediate benefits in teaching practice (Brown & Garcia, 2020). Additionally, the collaborative nature of action research fosters inclusive participation among teachers and students, promoting a holistic approach to educational research (Jones & Wang, 2017). Moreover, the emphasis on practical problem-solving ensures that research outcomes provide actionable solutions to challenges encountered in EFL teaching (Chen et al., 2016; Kim & Patel, 2021). Lastly, the flexibility of action research accommodates open-ended and unexpected outcomes, enabling teachers to adapt their approaches continuously and refine their teaching methods (Nguyen & Smith, 2019). These ideas are supported by various studies such as one conducted in Vietnam that examined teachers' action research competencies and challenges in EFL teaching (Tran & Brown, 2018). Another study focused on a Teachers Action Research Programme at a university in Santiago, highlighting how action research can enhance knowledge of teaching practices and deepen understanding of students' needs (Gomez & Lee, 2020). Furthermore, the benefits of action research are emphasized in educational contexts like EFL teaching where it helps teachers investigate teaching and learning to improve their own and their students' learning outcomes (Wang et al., 2017). In conclusion, action research emerges as a dynamic and practical approach in the field of education, particularly in EFL teaching.

FUNDAMENTALS IN ACTION RESEARCH

Key components of action research, including its purposes, researcher roles, methodologies, scope and generalization, and outcome and applications are explored in contrast with corresponding elements in traditional research.

Purposes

Action research primarily aims at solving practical problems or improving practices within the specific context of EFL teaching (Burns, 2010). It centers on the teacher's individual practices, with the goal of enhancing teaching techniques, curriculum design, and classroom management strategies (Mills, 2014). In contrast, traditional research typically contributes to theoretical knowledge by aiming to establish overarching principles or theories that may not have immediate relevance to specific classroom scenarios (Richards & Rodgers, 2001). Consequently, traditional research strives to produce universal insights applicable across various contexts, while action research focuses on problem-solving and enhancement within educators' personalized educational environments.

Researcher's Roles

In action research, EFL teachers take on the role of the researcher, actively engaging in every phase of the investigative process. This hands-on approach not only deepens their understanding of the research context but also allows for the direct application of findings in the classroom (Creswell, 2014). By closely interacting with the research process, teachers gain insights into their teaching practices and the specific challenges they encounter in their classrooms. Consequently, they can enhance their lessons by integrating real-time observations and linking research insights to practical classroom experiences.

Conversely, traditional research is often conducted by external academics or experts who may not have direct exposure to day-to-day classroom interactions. Although an outside perspective can be objective, it might not have the same detailed understanding of what happens in the classroom that teachers have (Creswell, 2014). Knowing their students, teaching methods, and curriculum very well, teachers can give them a special view that researchers who are not teachers might not understand. This difference shows that it is important for teachers to lead research because they can capture the complicated and subtle parts of education.

Methodology

Action research is a type of research that usually uses flexible and qualitative methods that change as the research goes on. This approach often involves reflecting on teaching practices, observing what happens in the classroom, and making changes to teaching strategies as needed. The goal is to continuously improve teaching methods and student outcomes (Kemmis & McTaggart, 1988). This type of research is often used by teachers who want to improve their own teaching practices.

On the other hand, traditional research often uses quantitative methods with predetermined hypotheses and structured approaches. The goal of traditional research is to maintain objectivity and replicability in its findings (Johnson & Christensen, 2017). This means that researchers try to be as objective as possible and use methods that can be repeated by other researchers to get similar results. Traditional research is often used by academics and researchers who want to study a particular topic in a more general way.

Scope and Generalization

Action research, with its focus on specific classroom contexts and student groups, provides a rich understanding of educational practices within a particular setting (Carr & Kemmis, 1986). This in-depth exploration allows for tailored interventions and improvements that are closely aligned with the unique needs of the context being studied. The context-specific nature of action research findings highlights the importance of considering the specific nuances of each educational environment (Stringer, 2014).

In contrast, traditional research aims to uncover generalizable principles and trends that can be applied across diverse educational contexts (Dörnyei, 2007). By examining overarching patterns and universal themes in EFL teaching, traditional research contributes to the development of broader theoretical frameworks and pedagogical approaches that have relevance beyond individual classrooms. This broader perspective enhances the transferability of research findings to a wider range of educational settings, promoting the advancement of teaching practices on a larger scale (Johnson & Christensen, 2017).

Outcome and Application

The results of action research are quickly produced and promptly implemented to enhance classroom practices. These practical findings are immediately relevant within the teacher's own setting, enabling swift application and tangible enhancements in teaching practices (Stringer, 2013; Efron, 2013; Smith, 2015). By directly addressing specific challenges and opportunities within the classroom, action research enables teachers to make real-time adjustments that have a direct impact on student learning experiences.

On the other hand, traditional research produces valuable insights that play a crucial role in shaping educational policies, guiding curriculum development, and influencing teaching approaches in the long

Action Research

run. While the findings of traditional research have the potential to impact broader educational practices on a systemic level, their application in specific classroom settings may not be as direct or immediately actionable as those derived from action research (Creswell, 2014; Coghlan, 2019; Johnson, 2020). Hence, traditional research contributes to the accumulation of knowledge that informs educational theory and practice at a macro level, emphasizing long-term implications and systemic changes within the field of education.

KEY ISSUES IN ACTION RESEARCH IMPLEMENTATION

To provide a deeper understanding of the broad perspectives on action research and the specific actions teachers should take at each stage, the following section will introduce various approaches and models of action research.

Action Research Approaches

Based on the works of Burns and Richards (2009), Burns (2010), Burns (2015), Calhoun (1993), and Çelik and Dikilitaş (2015), action research can be classified as exploratory action research, participatory action research, collaborative action research, schoolwide action research. This classification hinges on the dynamics of engagement between the teacher-researcher, students, and related parties during the implementation of the action research.

Exploratory Action Research

Exploratory Action Research (EAR) begins with exploratory practice, where teachers and learners jointly investigate their current practices and locate the areas requiring enhancement (Smith & Johnson, 2017a). For example, a teacher discovers low levels of student engagement during speaking tasks. Through exploratory action research, the teacher might survey or interview students about their perspectives on speaking in English and identify obstacles, subsequently testing novel tactics to stimulate participation.

Participatory Action Research

Participatory Action Research (PAR) involves cooperation among researchers and participants to recognize and resolve difficulties (Smith & Johnson, 2017a; Brown et al., 2019; Reason & Bradbury, 2001). PAR and EAR are interconnected in the context of improvement processes. EAR focuses on defining areas that need improvement, while PAR involves taking actions for development (Smith & Johnson, 2017a; Brown et al., 2019; Chatterton et al., 2007).

For example, a teacher works with students to create more interesting lessons. After noticing that students are bored with usual grammar exercises, the teacher and students together make games and activities that include grammar but are still fun. They then see how this new approach helps with keeping students interested and improving their learning.

Collaborative Action Research

In Collaborative Action Research (CAR), teachers work collectively in groups to study their teaching practices. The collaboration could be extended among teachers, students, and other stakeholders to enhance educational practices and improve outcomes (Smith & Johnson, 2017b). For instance, a group of EFL teachers at a school work together to better their instruction on integrating culture into their teaching. They prepare and share different lessons and activities focusing on different cultures and countries where English is spoken. The variety activities might be cultural festivals, guest speakers, and project-based learning on cultural topics, and so on. The teachers share their experiences and student responses in regular meetings, working together to create a more effective lesson plan.

Schoolwide Action Research

Schoolwide action research (SAR) is a comprehensive, inclusive approach aimed at improving educational practices at the level of an entire school. It involves the full participation of the school's faculty and often extends to students, parents, and the broader community (Calhoun, 1993). The focus is on issues of shared interest, with the goal of enhancing the overall functioning and organizational structure of the school. This form of research emphasizes organizational improvement, ensuring equity for all students, and expanding the breadth and depth of the inquiry itself. For example, all EFL teachers of one school try to implement COIL in their classrooms in connection with an international organization to bring live international experiences to their students.

Action Research Models

In EFL education, various models serve as guiding frameworks for teacher - researcher to navigate challenges and enhance teaching practices. Action research models, including Lewin's (1946), Kemmis and McTaggart's (2000), Elliott's (1991), McNiff and Whitehead's (2006), Stringer's (1996), and Mills (2002), bring a distinct approach to the iterative process of planning, acting, observing, and reflecting. By examining the interconnections among these models, we can uncover how they complement and build upon one another to facilitate continuous improvement in teaching methodologies.

Lewin's Model (1946) is a significant framework in the field of change management. It's widely used in various fields, including education, to understand and guide the process of change. The model consists of three main stages: Unfreeze, Change, and Refreeze.

Unfreeze: This stage involves preparing or *planning* for the change. It is about understanding the need for change and getting ready to move away from the current comfort zone. This might involve breaking down existing structures or ways of doing things and challenging current beliefs and behaviors.

Change (or Transition): It's a time for *acting* to make the change happen. During this phase, hence, the actual change occurs. This is often the most difficult and uncertain stage where people are learning new behaviors, processes, or ways of thinking.

Refreeze: This stage is about stabilizing the change and creating a new status quo. It involves establishing new ways of working, and the changes are embedded into the culture. It's essential to ensure and evaluate the efficacy, consistency, and stability of the change.

In an EFL context, the Unfreeze stage could involve recognizing the need for new teaching methods or materials to better engage students or address changing educational standards. The Change stage might

Action Research

involve training the teachers, implementing new teaching strategies, such as communicative language teaching, technology integration, or different assessment methods. Teachers and students experiment with new ways of learning and teaching. The Refreeze stage establishes these new methods as the standard practice in the classroom, which might involve regular use of new technology, consistent application of new teaching strategies, or a shift in how students are assessed.

The strengths of Lewin's model include its structured approach, emphasis on readiness, and support for stability. However, some critics argue that the model is too simplistic and doesn't account for the complex nature of change in real-world situations. Additionally, the model assumes that once "refrozen", change is complete, which might not account for ongoing resistance or the need for continuous adaptation.

Another model to discuss in this chapter is Kemmis and McTaggart's model. It is often referred to as the Action Research model, or PAOR model, was developed in 2000 and is a significant framework in educational research and practice, especially in the field of teaching. This model is particularly useful for teachers seeking to improve their teaching practices and student outcomes through a cyclic process of action and reflection.

Kemmis and McTaggart's model comprise four components: planning, acting, observing, and reflecting.

Planning: Identifying an area for improvement and developing a plan to address it. This involves setting objectives, deciding on methods, and determining resources.

Acting: Implementing the plan in a controlled and manageable way. This is where the teacher puts into practice the strategies or changes they have planned.

Observing: Systematically observing the outcomes of the action. This could involve collecting data, monitoring student engagement and progress, and noting any changes or unexpected outcomes.

Reflecting: Analyzing the data and experiences to understand the impact of the action. Based on this reflection, the teacher can then revise the plan for the next cycle of action research.

Example: An EFL teacher might notice that their students struggle with speaking skills. He/she applies the four steps of PAOR model as follows.

Planning: The plan could involve integrating more speaking activities into lessons to engage students of different levels like personalizing, meeting foreigners, storytelling, ...).

Acting: the teacher conducts the planned activities in class.

Observing: The teacher monitors student participation notes their comfort level in speaking and their performance.

Reflecting: After a period, the teacher evaluates the feasibility and effectiveness of these activities and decides whether to continue, modify, or try different strategies, and planning for the new actions.

The PAOR model, may be the most commonly applied in language education action research. It is not just a cycle but a spiral, where each iteration builds on the previous. After planning, acting, observing, and reflecting, the next cycle begins with a deeper understanding. It's particularly effective for complex problems because it allows for refinement and adaptation over time. This model can be seen as an extension of Lewin's Model, offering a more in-depth and continuous process.

Elliott's model of action research, established in 1991, serves as a fundamental framework in the field of education, particularly in enhancing and reforming teaching practices through a reflective and cyclical process. This model places a strong emphasis on the pivotal role of teachers as researchers within their own classrooms (Elliott, 2009). Similar to PAOR model Kemmis and McTaggart (2000), this model starts with identifying a problem, acting to address it, monitoring the implementation, and then evaluating the effects.

Components of Elliott's model (1991) comprises the following steps:

Identifying a General Idea: By identifying specific challenges or opportunities for improvement in teaching or in student learning outcomes, teachers pinpoint an issue or area for development in teaching or student learning.

Fact-Finding: This stage involves gathering information to comprehend the context and identifying specific issues. Teachers collect data and information by observing classes, collecting student work, and seeking feedback for better understanding.

Planning Action: Based on the insights gained during fact-finding, teachers develop suitable instructional strategies or interventions. In EFL teaching, the planned actions can be new teaching strategies like real-life conversation scenarios, using multimedia resources, or grammar practice in communication. This planning stage involves setting objectives, outlining steps, and preparing resources. The key is to design actionable and measurable plans that directly address the identified issues.

Implementing Action: Teachers put their plan into action in the classroom setting. It is crucial to implement the plan systematically and be prepared to make adjustments as needed based on real-time classroom dynamics. Integrating these new teaching strategies into daily lessons and activities, ensuring they align with the planned objectives.

Monitoring the Action: This involves collecting data on the intervention's effects, observing changes in student behavior or performance, and recording outcomes. This step also involves seeking student feedback to gauge their engagement and understanding. Effective monitoring requires a structured approach to gather relevant and reliable data.

Evaluating the Action: After a period of implementation and monitoring, teachers evaluate the impact of their actions. This evaluation should be based on the data collected and should assess whether the intervention met its objectives, what worked well, and what didn't. This stage is crucial for understanding the effectiveness of the strategies used.

Amending the Problem and Plan: The final stage involves reflecting on the evaluation results and using these insights to refine the understanding of the original problem. Based on this reflection, the plan is revised for the next cycle of action research, incorporating lessons learned to improve future interventions.

Elliott's Model offers EFL teachers a dynamic tool for continuous improvement through reflective inquiry, fostering ongoing adaptation and refinement in professional development within education. Although the model's comprehensive and thorough stages provide insightful guidance for teachers, its complexity and the greater number of steps involved might make it less accessible or appealing for widespread use, especially when compared to more straightforward models such as PAOR.

McNiff and Whitehead's Model, developed in 2006, is a model of action research specifically designed for educators and practitioners to improve their professional practice. Focused on self-reflection and improvement, this model is about a continuous journey of development. It starts with identifying improvement areas, acting, observing the impact, and reflecting, similar to Kemmis and McTaggart's spiral approach. The introspection aspect connects it to Elliott's emphasis on reflection during the action research process.

Ask a Question: Start by identifying a question about your practice that you want to explore. This question should be focused on improving the quality of your work or the learning experience of your students. The question should be specific, actionable, and relevant to your teaching context. For example, "How can I enhance student engagement during online lessons?"

Do Some Research: Investigate the current understanding and best practices related to your question. This involves delving into academic literature, attending professional development workshops, observing

Action Research

other teachers who excel in the area you are exploring, and reflecting on your own teaching experiences. By gathering diverse sources of information, you can gain valuable insights to inform your practice.

Implement a Strategy: Based on your research findings, develop and implement a strategy aimed at addressing the question or issue you have identified. Your strategy should be well-defined, practical, and aligned with your teaching goals. For instance, if your question revolves around improving student participation in class discussions, you might implement strategies like small group discussions or incorporating multimedia resources.

Observe the Outcomes: Monitor and record the effects of your strategy on both your teaching practice and your students' learning outcomes. Keep detailed records of observations, student responses, and any changes in engagement or performance. This step is crucial for understanding the impact of your interventions and identifying areas for improvement.

Reflect and Evaluate: Reflect on the data you have collected to evaluate the effectiveness of your strategy. Consider what the data reveals about your teaching practice and whether it has addressed the initial question or concern. Reflective practices help you gain deeper insights into your teaching methods and student interactions, fostering continuous improvement.

Modify Your Practice: Based on your reflections and evaluations, make necessary adjustments to your practice. This may involve refining your existing strategies, trying new approaches, or incorporating feedback from students. By being open to change and willing to adapt based on evidence and reflection, you can enhance the effectiveness of your teaching practices and positively impact student learning outcomes.

In the context of EFL teaching, the model's strengths are evident in its personalized approach, tailored to meet the specific needs and challenges faced by EFL educators. This customization allows for effective adaptation to diverse educational environments and fosters continuous professional growth through reflective practice, promoting lifelong learning and adaptability in teaching methods. However, similar to McNiff and Whitehead's Model (2006), the model with multiple steps may pose challenges for EFL teachers, especially those with limited time resources. Additionally, its self-directed nature requires a high level of self-motivation and discipline from practitioners, potentially hindering full engagement and benefit.

Stringer's Model, developed in 1996, is an action research framework particularly popular in the field of education. This model emphasizes a participatory approach, involving stakeholders actively in the research process (Stringer, 2019). This model is designed to help practitioners, such as teachers, improve their practices through a cyclic process of observation (Look), reflection (Think), and action (Act).

Look: This stage involves observing and gathering information about the current situation. It's about understanding the context and identifying the issues or challenges at hand.

Think: Here, the collected information is analyzed. This stage involves reflecting on the data to understand the underlying causes of the issues identified in the Look stage.

Act: Based on the insights gained from the previous stages, this step involves developing and implementing actions to address the identified issues.

For example, an EFL teacher might use Stringer's Model to address the issue of low student engagement during online lessons. In the Look stage, the teacher observes the class and notices that students are not actively participating in discussions or completing assignments. In the Think stage, the teacher reflects on the data and identifies that the lack of engagement might be due to the monotonous nature of the lessons and the lack of interactive activities. In the Act stage, the teacher implements new strategies like incorporating multimedia resources, group discussions, and interactive quizzes to enhance student

engagement. The teacher then observes the outcomes, reflects on the effectiveness of the strategies, and modifies the teaching practices accordingly.

Developed by Geoffrey Mills in 2002, Mills's model is a cyclical model designed to assist teachers in systematically investigating and improving their teaching practices, by focusing on the identification of problems through meticulous data collection and analysis in pre-action stage. Although this recursive model comprises multiple stages, it bears resemblance to the PAR (Planning - Acting - Reflection) model. However, it distinguishes itself by placing a greater emphasis on the identification and thorough understanding of the problem prior to devising and implementing solutions to ensure a more targeted and effective intervention.

Identifying an Area of Focus: This initial stage involves selecting a specific issue or aspect of teaching practice that needs improvement or exploration. The focus area should be relevant to the teacher's context and have potential for enhancing student learning outcomes.

Collecting Data: Once the area of focus is identified, the next step is to gather information that will shed light on the issue. This data collection can be done through various methods such as surveys, classroom observations, interviews, student assessments, or reviewing relevant literature. The goal is to obtain a comprehensive understanding of the problem.

Analyzing and Interpreting Data: After collecting the data, it needs to be analyzed and interpreted. This involves looking for patterns, themes, or insights that emerge from the data, which can help in understanding the underlying causes or factors related to the focus area.

Developing an Action Plan: Based on the insights gained from the data analysis, the next step is to devise a strategy or a set of actions aimed at addressing the identified issue. This plan should be practical, achievable, and tailored to the specific context of the classroom or educational setting.

Implementing the Action Plan: This component involves putting the developed plan into practice. It requires careful execution of the planned actions, along with monitoring and adjusting as necessary based on student response and other factors.

Reflecting on the Data and Action Plan: The final stage is to reflect on the entire process and the outcomes of the action plan. This reflection involves evaluating the effectiveness of the plan, considering the impacts on student learning, and determining what was learned through the process. Based on this reflection, future action plans can be developed for continued improvement.

In summary, the interconnectedness among these models reveals a cohesive approach to action research in EFL education. Beginning with Lewin's foundational aspect, which emphasizes planning, acting, and evaluating, it sets the ground for the iterative processes in Kemmis and McTaggart's and Stringer's models. Significantly, Kemmis and McTaggart's model distinguishes itself through its versatility, balance, and flexibility of steps, thereby becoming the most commonly adopted action research model in education. Its cyclical nature – Planning, Acting, Observing, and Reflecting (PAOR) – allows educators to effectively adapt to a variety of educational challenges and contexts, ensuring continuous improvement and learning.

The value and applicability of different models vary; each offering unique insights and approaches to reflective practice in education. For instance, Elliott's and McNiff and Whitehead's models emphasize reflection and introspection as core elements, ensuring a deep and thoughtful consideration throughout the process. Furthermore, Mills's model introduces a structured but flexible approach. It highlights the importance of finding specific areas to focus on and collecting data systematically to make action plans. This approach improves the cycle of action and reflection, giving educators a more data-focused way to understand and enhance their teaching.

ISSUES AND CONCERNS IN UNDERSTANDING AND CONDUCTING ACTION RESEARCH IN EFL TEACHING

After dealing with what action research is and how to implement it in the first two parts, this part will present the challenges and concerns teacher-researchers often face in understanding and conducting action research.

Misconceptions about Action Research

Teacher-researchers often hold misconceptions about action research's design and approaches. Zhou (2014) and Yen et al. (2018a) identify a common problem: teachers typically struggle to grasp essential research concepts and methodologies required for conducting effective action research. This gap in understanding can significantly impede their ability to undertake impactful studies. Furthermore, the question of whether action research can incorporate quantitative methods is a subject of ongoing discussion. Smith and Johnson (2017) contend that action research should focus more on process and the practical application and impact of teaching methods, rather than on simple yes-or-no questions. Contrary to the belief that action research is limited to qualitative methods, Sagor (1992) emphasizes its capacity to integrate both qualitative and quantitative data analysis techniques effectively. Quantitative data, for instance, proves invaluable during the initial problem identification phase, providing clear and measurable insights. In the action or implementation phase, teacher-researchers are encouraged to utilize quantitative tools, such as tests and questionnaires, to evaluate student learning outcomes. Elliott (2009) points out that these quantitative methods are effectively complemented by qualitative approaches, like interviews, observations, and diaries, which yield a deeper understanding of both learning and teaching processes. Therefore, it's vital for teacher-researchers to recognize and embrace the diverse methodologies available in action research to conduct comprehensive and effective studies.

Complexity and Time-Taking

Action research, often perceived as more complex than other research types by many teacher-researchers, demands considerable time and effort. This complexity primarily arises from the need to thoroughly combine various research elements or stages, posing a significant challenge, especially for newcomers to the field. One of the key difficulties lies in synthesizing and reporting on interrelated yet subtly distinct topics, requiring a deep and nuanced understanding of the research process. This challenge is further exacerbated by the lack of standardized guidelines in the existing literature, resulting in a variety of approaches to both implementation and reporting that can be unclear or inconsistent. Furthermore, the data collection and analysis process in action research, while flexible in appearance, is often intricate in practice. Researchers must perform detailed and accurate data analysis for problem identification and handle qualitative data effectively during the implementation stage. These complexities, as noted by Brown and Smith (2019), Johnson and Williams (2020), and Thompson and Garcia (2021), can lead to fatigue and reluctance among teacher researchers, making them hesitant to embark on action research projects.

Limited Scalability, Reliability and Generalizability

Action research faces inherent limitations, primarily due to its restricted scalability, questionable reliability, and limited generalizability. First, this form of research is deeply rooted in specific contexts, which poses significant challenges when attempting to extend its findings to broader settings or more diverse populations (Johnson, 2021). Such constraints directly affect the applicability and transferability of the research outcomes. Second, qualitative data collection and analysis from the teachers makes reliability at risks (Smith & Lee, 2020). Action research is commonly executed by class teachers. Teachers may find it challenging to conduct thorough observations during their lessons. Although data collected from students can be rich and insightful but not rather vulnerable. It is often difficult for students to give negative feedback to their teachers openly and honestly (Davis, 2019). Third, the qualitative methods predominantly employed in action research further amplify concerns regarding the reliability of the results (Taylor & Harris, 2022). As a consequence, the outcomes of action research are often viewed with caution and considered less robust compared to those derived from more objective, quantitative research methodologies (Williams, 2018).

Limited Opportunity for Publication

Action research serves as a flexible and advantageous approach for teachers to improve their professional skills. However, its representation in academic literature is limited due to several contradictions (Yen et al., 2018b). While professional development is crucial, especially for EFL teachers in high schools, these educators usually lack research obligations. This leads to a decreased interest in conducting and documenting action research. They follow the cycle of planning, acting, and reflecting, shared only among peers, rather than aiming to formal publication (Yen et al. 2018a). In contrast, teachers in higher education, who are required to research and publish, frequently choose alternative research methods. The vulnerabilities of action research, including its limited scalability, reliability, objectivity, and generalizability, make its findings harder to publish compared to other research types (Brown et al., 2020). This contributes to its lesser visibility in scholarly publications. Ultimately, while action research is valuable for teacher development, its academic impact is diminished by practical challenges and the preferences of educators at different educational levels (Johnson et al., 2021).

Lack of Institutional Support

Teachers frequently encounter challenges due to a lack of administrative support or recognition for their action research efforts (Tindowen et al., 2019). This shortage of support often translates into insufficient resources, such as limited time, inadequate funding, or restricted access to necessary materials and technology—all crucial for conducting effective research. Additionally, many educators lack formal training in research methodologies, complicating their ability to design and implement reliable and effective studies. This deficiency in expertise can result in difficulties in formulating research questions, designing methodologies, collecting and analyzing data, and ultimately drawing valid conclusions. Moreover, resistance from colleagues can pose another significant barrier, as they may be hesitant or opposed to changes proposed based on the findings of action research, further complicating the implementation process.

CONCLUSION

In conclusion, this chapter has emphasized the indispensable role of action research in the professional development of teachers, especially in language education. We have gone through the concept of action research, its differentiation from other research designs, and its practical applications in educational contexts. This exploration has highlighted how action research empowers teachers to address specific challenges within their environments, fostering a culture of reflective practice and continual enhancement.

Commonly applied action research models in EFL education serve as pivotal frameworks guiding teacher-researchers. Models like Lewin's, Kemmis and McTaggart's, Elliott's, McNiff and Whitehead's, Stringer's, and Mills offer unique approaches to the iterative cycle of planning, acting, observing, and reflecting. The interconnectedness of these models demonstrates a cohesive approach in EFL education, where each model contributes its strengths to a comprehensive understanding of action research. Kemmis and McTaggart's model, with its versatile and balanced steps, has become particularly influential in educational action research, or considered "standard" action research model. Also, the clear-cut and cyclical model of Planning, Acting, Observing, and Reflecting could be adapted to various educational challenges and contexts, promoting continuous improvement and learning. On that basis, other models derive. For example, Elliott's and McNiff and Whitehead's, focus on introspection and deep reflection, ensuring thoughtful consideration throughout the process. Mills's model, introduced in 2003, offers a structured yet adaptable approach, underscoring the importance of targeted focus and systematic data collection for developing action plans. The exploration of these models in this chapter has provided teacher-researchers with valuable insights and tools for conducting action research in alignment to the dynamic needs of and varied contexts of language education.

Finally, this chapter endeavors to illuminate the various challenges faced by teacher-researchers. These include the intricacies involved in comprehending, selecting, executing, and disseminating action research. The discussions are shaped by the author's acknowledgement of the current state of teachers, their pedagogical and research practices, and the inherent characteristics of action research.

This chapter acknowledges certain limitations. Firstly, it may not provide sufficiently detailed guidelines or step-by-step instructions for teachers to rigorously follow in their practice. While it offers a broad overview, it stops short of being a comprehensive manual on the precise dos and don'ts of action research. Secondly, the chapter does not offer specific suggestions or solutions to address the challenges EFL teachers may encounter in understanding and implementing action research. It focuses more on outlining the concept and process of action research rather than delving into problem-solving strategies for the issues faced in its application.

ACKNOWLEDGEMENT

I fully acknowledge the supports and facilitations of Tra Vinh University on completion of this chapter.

REFERENCES

Brown, A. (2019). Enhancing Student Engagement Through Exploratory Action Research in Language Teaching. *Language Education Journal*, 25(3), 112–125.

- Brown, A. (2020). The Impact of Action Research Vulnerabilities on Publication Visibility in Educational Research. *Educational Development Journal*, 12(4), 112–125.
- Brown, A., & Garcia, B. (2020). Action research and the English as a foreign language practitioner. *The Journal of Educational Research*, 45(2), 78–89.
- Brown, A., & Johnson, M. (2018). Enhancing EFL Teaching Practices Through Action Research. *Journal of Language Education Research*, 12(3), 45–58.
- Brown, A., & Smith, B. (2019). Challenges in Action Research: A Comprehensive Overview. *Journal of Research in Education*, 42(2), 143–156.
- Burns, A. (2010). *Doing action research in English language teaching: A guide for practitioners*. Routledge.
- Burns, A. (2015). The action research in ELICOS program: Refining the development of a national model. *Research Notes*, 60, 4–8.
- Burns, A., & Richards, J. C. (Eds.). (2009). *The Cambridge guide to second language teacher education*. Cambridge University Press. doi:10.1017/9781139042710
- Carr, W., & Kemmis, S. (1986). *Becoming Critical: Education Knowledge and Action Research*. Falmer.
- Çelik, S., & Dikilitaş, K. (2015). Action research as a professional development strategy. In S. Borg & H. S. Sanchez (Eds.), *International perspectives on teacher research* (pp. 125–138). Palgrave Macmillan. doi:10.1057/9781137376220_10
- Chatterton, A., Fuller, B., & Routledge, C. (2007). Collaborative Knowledge Production in Participatory Action Research. *Journal of Social Change*, 10(4), 215–230.
- Chen, L. (2021). Collaborative Learning Communities in EFL Education: A Focus on Action Research. *International Journal of Educational Innovation*, 25(2), 112–125.
- Coghlan, D. (2019). *Doing action research in your own organization* (6th ed.). Sage Publications.
- Consoli, S., & Dikilitaş, K. (2021). Research engagement in language education. *Educational Action Research*, 3(29), 347–357. doi:10.1080/09650792.2021.1933860
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). SAGE Publications.
- Davis, A. (2019). Challenges in Student Feedback in Action Research. *The Journal of Educational Research*, 112(2), 123–136.
- Dörnyei, Z. (2007). *Research Methods in Applied Linguistics: Quantitative, Qualitative, and Mixed Methodologies*. Oxford University Press.
- Dörnyei, Z., Kemmis, S., & McTaggart, R. (2005). *Action research for teachers*. Routledge.
- Efron, S. (2013). *Action research in education: A practical guide*. Routledge.
- Elliott, J. (1991). *Action Research for Educational Change*. Open University Press.

Action Research

- Elliott, J. (2009). Building educational theory through action research. In S. Noffke & B. Somekh (Eds.), *The Sage Handbook of Educational Action Research. Revista de Educación de la Universidad de Málaga*, 3(3), 13-28.
- Gomez, R., & Lee, S. (2019). Cultivating Shared Learning and Innovation Through Action Research in EFL Teaching. *Journal of Educational Collaboration*, 8(4), 67–79.
- Gomez, R., & Lee, S. (2020). Reflections on a New Action Research Program for University EFL Teachers. *International Journal of Language Education*, 18(3), 56–67.
- Johnson, B., & Christensen, L. (2017). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage Publications.
- Johnson, C., & Williams, D. (2020). The Intricacies of Data Collection and Analysis in Action Research. *Journal of Educational Psychology*, 112(2), 183–196.
- Johnson, M. (2021). Scalability and Applicability of Action Research. *Journal of Research in Education*, 37(3), 247–262.
- Johnson, M. (2021). Practical Challenges and Preferences in Action Research: A Comparative Analysis Across Educational Levels. *Teaching and Learning Journal*, 30(1), 210–223.
- JohnsonM.LeeK. (2019).
- Johnson, R. (2020). *Educational research methods: A comprehensive guide*. Pearson.
- Kemmis, S., & McTaggart, R. (1988). *The Action Research Planner*. Deakin University Press.
- Kemmis, S., & McTaggart, R. (2000). *Participatory action research*. Falmer Press.
- Kim, J., & Patel, S. (2022). Personalized Professional Development in EFL Teaching: The Role of Action Research. *Language Teaching and Learning Journal*, 30(1), 210–225.
- Lewin, K. (1946). Frontiers in group dynamics: Concept, method, and reality in human relations. *Human Relations*, 1(1), 5–41. doi:10.1177/001872674700100103
- McNiff, J. (2013). *Action Research for Teachers*. Routledge. doi:10.4324/9780203112755
- McNiff, J., & Whitehead, J. (2006). *Action research: From theory to practice*. Sage Publications.
- Mills, G. E. (2002). *Action Research: A Guide for the Teacher Researcher*. Prentice Hall.
- Mills, G. E. (2014). *Action Research: A Guide for the Teacher Researcher* (5th ed.). Pearson.
- Nasrollahi, M. A., Krish, P., & Noor, N. M. (2012). Action research in language learning. *Procedia: Social and Behavioral Sciences*, 47, 1874–1879. doi:10.1016/j.sbspro.2012.06.916
- Nguyen, H., & Smith, P. (2017). Empowering EFL Teachers as Agents of Change: Insights from Action Research. *Educational Development Journal*, 15(2), 88–101.
- Quyen, V. P., & Yen, P. H. (2018). English lecturers' perceptions of improving English teaching quality through action research: What do lecturers of Can Tho University say? *Can Tho University Journal of Science.*, 54(2), 98–105.

- Reason, P., & Bradbury, H. (2001). Participatory Action Research: International Perspectives and Practices. *International Journal of Research in Education and Science*, 159.
- Richards, J. C., & Rodgers, T. S. (2001). *Approaches and Methods in Language Teaching* (2nd ed.). Cambridge University Press. doi:10.1017/CBO9780511667305
- Sagor, R. (1992). *How to conduct collaborative action research*. Association for Supervision and Curriculum Development.
- Smith, J. (2018). The languages in-service program for teachers of languages other than English: An evaluation study. *Educational Research Journal*, 15(4), 67–79.
- Smith, J., & Johnson, M. (2017a). Exploratory Practice in Action Research: A Collaborative Approach. *The Journal of Educational Research*, 15(2), 78–91.
- Smith, J., & Johnson, M. (2017b). Collaborative Action Research in Education: A Practical Guide. *Educational Development Journal*, 10(3), 45–58.
- Smith, J., & Lee, H. (2020). Qualitative Data in Educational Research: Reliability Concerns. *Journal of Educational Psychology*, 112(2), 183–196.
- Smith, L. (2015). *Action research for teachers: A practical guide*. Cambridge University Press.
- Stringer, E. (1996). *Action research: Principles and practice*. Open University Press.
- Stringer, E. T. (2013). *Action Research* (4th ed.). SAGE Publications.
- Stringer, E. T. (2014). *Action research*. Sage Publications.
- Stringer, E. T. (2019). *Action Research in Education: A Practical Guide*. Routledge.
- Taylor, R., & Harris, F. (2022). Subjectivity in Qualitative Methods: Implications for Action Research. *Journal of Qualitative Research in Education*, 55(4), 569–582.
- Thompson, L., & Garcia, M. (2021). Overcoming Fatigue in Action Research: Strategies for Teacher Researchers. *The Journal of Educational Research*, 114(4), 567–578.
- Thorne, Q., & Qiang, W. (1996). Action research in language teacher education. *ELT Journal*, 50(3), 254–262. doi:10.1093/elt/50.3.254
- Tran, L., & Brown, D. (2018). Professional learning in Australian ELICOS: An action research orientation. *English Australia Journal*, 29(2), 45–58.
- Wallace, M. (2000). *Action research for language teachers*. Cambridge University Press.
- Wang, Y. (2017). Teacher research in language teaching: A critical analysis. *Language Education Review*, 22(1), 30–42.
- Wang, Y. (2020). Refining Teaching Approaches Through Iterative Action Research in the EFL Classroom. *Teaching and Learning Journal*, 18(4), 30–42.
- Williams, E. (2018). Comparative Analysis of Research Methodologies: Action Research and Traditional Research. *Journal of Research in Education*, 35(4), 351–368.

Action Research

Yen, A. (2018b). Challenges and Contradictions in Representing Action Research in Educational Literature. *The Journal of Educational Research*, 25(3), 78–91.

Yen, P. H. (2018a). English lecturers' perceptions and practices of research engagement: The case of Can Tho University. *Can Tho University Journal of Science.*, 54(2), 122–130.

Zhou, J. (2014). Teacher education changes in China: 1974–2014. *Journal of Education for Teaching*, 40(5), 507–523. doi:10.2753/CED1061-1932450405

ADDITIONAL READINGS

Atay, D. (2008). *Facilitating a completed action research programme for professional development*.

Burns, A. (1999). *Collaborative action research for English teachers*. Cambridge University Press.

Burns, A., & Khalifa, H. (Eds.). (2017). *Second language assessment and action research*. Cambridge University Press.

Chen, L. (2016). Getting EFL students to speak: An action research approach. *Journal of Language Teaching and Learning*, 30(4), 112–125.

Leedy, P. D., & Ormrod, J. E. (2013). *Practical Research: Planning and Design* (10th ed.). Pearson.

McNiff, J., & Whitehead, J. (2013). *Action research: A journey in self-study*. Sage Publications Inc. doi:10.4324/9780203112755

Ryan, T., G. (2017). Communicative Elements of Action Research Networks, *An Online Journal for Teacher Research* (15) 2. doi:10.4148/2470-6353.1056

Stringer, E. (2014). *Action research: A guide for school leaders*. SAGE Publications Ltd.

KEY TERMS AND DEFINITIONS

Collaborative Action Research: Collaborative action research is a type of action research, in which teachers work collectively in groups to study their teaching practices.

Exploratory Action Research: Exploratory action research begins with exploratory practice, where teachers and learners jointly investigate their current practices and locate the areas requiring enhancement.

Participatory Action Research: Participatory action research involves cooperation among researchers and participants to recognize and resolve difficulties.

Chapter 12

Case Study

Tuyet Thi Tran

 <https://orcid.org/0000-0002-1221-6015>

Hanoi University of Business and Technology, Vietnam

Ha-Anh Thi Nguyen

Hanoi Pedagogical University 2, Vietnam

ABSTRACT

This chapter delves into the impact of case studies within applied linguistics and language education, underscoring its indispensable role in navigating the complexities of contemporary language learning and teaching. The chapter illuminates how this approach facilitates a nuanced understanding of linguistic phenomena within real-life contexts by examining the case study method's core principles, design, and implementation strategies. Emphasizing the flexibility and adaptability of case studies, the chapter showcases their capacity to offer in-depth, rich insights that transcend traditional research methodologies. This chapter also articulates an argument for integrating case studies in advancing the field's knowledge base and practice by aligning its mission with the book's overarching aim. Concluding with a reflective synthesis, the chapter invites researchers and practitioners alike to engage with the case study, highlighting its transformative potential and enduring impact on applied linguistics and language education.

INTRODUCTION

The term “case study” denotes a research strategy widely utilized across various fields of social research to delve deeply into phenomena within their actual life settings. This approach employs a broad array of data collection methods, such as detailed interviews and thorough observations, enabling a deep dive into the essence of subjects in their authentic environments (Creswell, 2014; Priya, 2021; Yin, 2009). In applied linguistics and language education, case studies play a crucial role in unraveling the intricate mix of elements that influence the language learning and teaching process. They provide valuable insights rich in contextual nuances (Henry & Thorsen, 2018; Ma, 2017; Rasmitadila et al., 2020; Zhang & Hyland, 2018).

DOI: 10.4018/979-8-3693-2603-9.ch012

Case Study

This chapter examines how case studies contribute to our understanding of applied linguistics and language education. It highlights the intricate relationship between linguistic phenomena and socio-cultural contexts and emphasizes the critical role of this relationship in fully comprehending the socio-cultural dynamics underlying language education. Through repeated data collection and analysis rounds, case studies offer a detailed mapping of the linguistic landscape. This mapping is instrumental in developing teaching methods, frameworks, and policies that harmonize with the diverse realities of educational environments.

Furthermore, this chapter underscores the vital methodological importance of case studies, advocating for their key position in applied linguistics and language education research. Aimed at both new and experienced researchers, it provides crucial insights that encourage the development of theoretical understanding and practical application within the field. With a focus on accurate empirical research, deep immersion in real-world contexts, and a profound respect for the relationship between phenomena and their contexts, this chapter highlights the irreplaceable value of case studies in exploring the complex dimensions of applied linguistic and language education.

CASE STUDY: TYPES, DESIGNS, AND IMPLEMENTATION

The case study approach stands as a model of research in applied linguistics and language education, offering a kaleidoscope of methodologies that allow for the dissection of phenomena within their real-life settings (Cohen et al., 2013; Duff, 2014; Stake, 1995; Tight, 2022; Yin, 1994, 2013, 2014, 2018). With various types mirroring the intricacies of the subjects under study, case studies bring forth subtle and transformative interpretations of linguistic and language environments. (Bardovi-Harlig, 1999; Duff, 2014; Yin, 2018). This chapter highlights the distinct types of case studies, each purpose-built to meet specific research goals

Types of Case Studies

In the scholarly pursuit of applied linguistics and language education, the dialogue around case studies unfolds a vibrant tableau of approaches, each enriching the investigative arsenal available to researchers. This diversity, encapsulated in the comprehensive overview provided by Figure 1, spans from Yin's (2013) exploration of exploratory, descriptive, and explanatory case studies to Stake's (1995) insightful categorization of intrinsic, instrumental, and collective case studies. Adding depth to this spectrum, Merriam (1988) and Stenhouse (1985) extend the palette to include various methodologies such as ethnographic, historical, psychological, sociological, action research, evaluative, and educational case studies. With its unique lens, each methodology equips researchers to meticulously tailor their inquiry to address nuanced research objectives, thereby enhancing the understanding of complex linguistic landscapes.

Adopting varied case study methodologies in applied linguistics and language education opens up many investigative avenues, each poised to illuminate distinct aspects of linguistic phenomena. Through careful curation of seminal literature, this discourse traverses the breadth of case study approaches, elucidating their distinctive features, goals, and potential impacts on practical application.

Illustrative case studies have garnered acclaim for their narrative ability to unravel complex linguistic phenomena, rendering intricate ideas accessible and engaging. Despite their considerable utility in demystifying and introducing linguistic concepts (Bardovi-Harlig, 1999; Duff, 2014; Yin, 2018), the

Figure 1. Broader perspectives on case study types

Scholar	Type of Case Study	Aims	Frequent Questions	Examples
Yin (2013)	Exploratory	to define questions and hypotheses for a subsequent study, or to determine the feasibility of the desired research procedure	How, Why	Jeblick et al. (2023)
	Explanatory	to explain how events happened by comprising data based on cause-effect relationships	How, Why	Guglielmin et al. (2022)
	Descriptive	to present a complete description of the phenomenon within its context	Who, What, Where	Arora et al. (2020)
Stake (1995)	Intrinsic	to explore and understand the particularities and nuances of a specific case	What, Why	Léger et al. (2020)
	Instrumental	to provide the basis for a larger phenomenon	How, What	Owens et al. (2019)
	Collective	to investigate a particular phenomenon, issue, or situation by studying multiple cases simultaneously	How, What	Kearney (2019)
Merriam (1988)	Ethnographic	to understand the relationship between people and their social environment	How, What	Ghorbani et al. (2021)
	Historical	to address questions related to change, continuity, development, and evolution	How, What	Leonard (2011)
	Psychological	to investigate a particular individual, group, or situation in depth	How, What	Zittoun (2020)
	Sociological	to investigate a particular individual or group in great detail, instead of trying to gather a representative sample from the target population.	How, What	Zulyadi (2020)
Stenhouse (1985)	Ethnographic	to understand the relationship between people and their social environment	How, What	Ghorbani et al. (2021)
	Action research	to enhance the prevailing situation by solving immediate problems	How, What	Fox and Macleod (2021)
	Evaluative	to obtain as full an understanding as possible, and this understanding is gained by extensive description and analysis.	How, What, Why	Granberg et al. (2021)
	Educational	to provide a comprehensive, in-depth understanding of a specific educational phenomenon within its real-life context.	How, What, Why, Who	Kirkham (2018)

fine line between simplification and maintaining complexity's integrity is a navigational challenge. It underscores the need for a discerning application of illustrative case studies to portray the rich tapestry of linguistic realities authentically.

Positioned at the forefront of linguistic research, exploratory case studies serve as the foundational bedrock for generating pivotal research questions and charting methodological courses. They are instrumental in scaffolding the theoretical edifice for more granular explorations into linguistics and language education (Yin, 1989, 1994). Their preliminary nature is vital for theoretical proliferation, demanding a nuanced interpretation to uphold the insights' validity.

By weaving together data from varied sources or temporal spans, cumulative case studies offer a panoramic view of linguistic phenomena, facilitating the construction of overarching generalizations (Stake, 1995). While invaluable for sketching coherent linguistic patterns, this endeavor grapples with the challenge of synthesizing findings across diverse studies, highlighting the intricate task of crafting unified insights from disparate linguistic contexts.

Case Study

Critical instance case studies delve into specific events or conditions to critically assess and validate theoretical propositions within linguistics and education (Baškarada, 2014; Merriam, 1988). They provide profound insights into the practical ramifications of linguistic theories in distinct educational scenarios. The focused nature of these studies may circumscribe their broader relevance, accentuating the importance of strategic selection to inform broader linguistic or educational dialogues.

The strategic application of diverse case study methodologies stands central to propelling research in applied linguistics and language education forward. These methodologies pave the way for an enriched theoretical understanding and contribute significantly to refining pedagogical practices. Embracing methodological plurality allows researchers to conduct comprehensive and nuanced investigations, producing insights that stimulate growth and innovation. Through judicious methodological choices, research in applied linguistics and language education is poised to continue its evolution, marked by an unwavering commitment to deepening our comprehension of the intricacies of language learning and instruction.

Designs and Diversity in Case Studies

The research landscape in applied linguistics and language education is as diverse as it is rich, calling for a deep dive into the architecture of case study designs. This discussion unfolds the layers between single-case and multiple-case designs, spotlighting their critical roles and far-reaching implications in the quest for knowledge. With its unique approach, each design paints a detailed portrait of the educational phenomena under the microscope, serving tailored research goals and contextual needs.

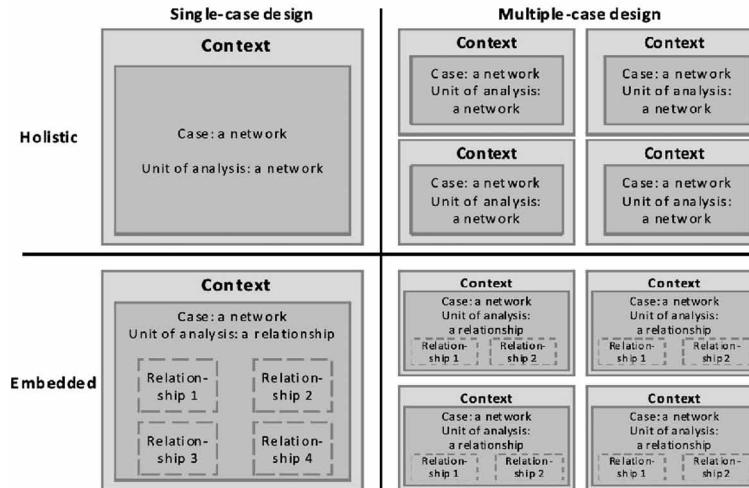
Single-case designs stand out for their meticulous focus on particular issues or ideas to uncover the depth of unique contexts and complexities (Stake, 1995; Yin, 1994, 2013). Ideal for casting light on outlier instances or offering vivid illustrations, this design type digs deep to unearth insights that challenge, refine, and expand theoretical boundaries (Gustafsson, 2017; Tight, 2022). However, the very essence of their detailed exploration might narrow their broader appeal, making them a gem for studies that aim to shine a light on or question the status quo.

On the other hand, multiple-case designs broaden the lens, embracing a comparative approach to sift through various situations in search of emerging patterns that bolster theoretical growth (Gustafsson, 2017; Stake, 1995; Tight, 2022; Yin, 1994, 2013). This method enriches the inquiry, capturing a panoramic view of educational diversities and aiming for findings that resonate across linguistic landscapes. This design's ability to weave together a tapestry of generalizable insights from across cases makes it invaluable for theory-building or validation across different settings.

The thoughtful choice between diving deep with a single case or spanning broad with multiple instances shapes the research outcome, balancing the scale between depth of insight and breadth of applicability (Halinen & Törnroos, 2005; Voss, 2010). Moreover, deciding between retrospective glances or forward-looking longitudinal designs adds another layer of complexity, essential for capturing the evolving nature of language learning and teaching. Referenced by Kähkönen (2014), researchers can consider the types of cases in Figure 2.

Selecting the right blend of case studies, in terms of quantity and type, is a pivotal step that fundamentally influences the reach and depth of an investigation. Single-case study designs allow for an intensive exploration of a phenomenon's unique complexities, offering a clear window into the core of the subject matter (Kähkönen, 2014). Figure 3 illustrates this focused lens, especially suited for detailed studies of distinctive or exemplary cases within their real-world settings. Conversely, opting for a multiple-case study design invites a broader analytical perspective, enabling the exploration of phenomena across di-

Figure 2. Four types of case design (Kähkönen, 2014)



verse contexts. Whether examining the whole system or delving into specific facets, this approach lays the groundwork for rich comparative analysis, knitting together insights from varied settings to enrich our collective understanding (Kähkönen, 2014; Voss, 2010).

Embarking on the journey of case study research in language education requires a delicate balance between the detailed scrutiny offered by single-case studies and the expansive overview provided by multiple-case designs. This equilibrium ensures that researchers can precisely navigate the multifaceted world of language learning and teaching, drawing insights that advance theoretical dialogues and have practical implications for the field. By aligning research designs with specific goals and contexts, researchers can craft studies that resonate academically and practically, enriching the tapestry of applied linguistics and language education with each discovery.

Figure 3. Number and type of cases (Kähkönen, 2014)

	Single cases	Multiple cases	Retrospective cases	Longitudinal cases
Typical	One case	Several cases	Study of the past	Two or more points in time
When to use	When the case: - is a critical case to test a well-formulated theory - is an extreme or unique - reveals a previously inaccessible phenomenon	When the aim is to develop a rich, theoretical framework by replication - predict similar or to show contracting results among replications	When the aim is to look backwards	When the aim is to define how certain conditions change over time
Advantages	Depth of the study - Can richly describe the existence of a phenomenon	- Augment external validity - Smaller observer bias - Allow case comparisons - Provide a stronger base for theory building	- Allow collection of data on historical events - Overcome the problems of retrospective cases	- Overcome the problems of retrospective cases
Limits	- Generalizability - The risk of misjudging the representativeness - The risk of exaggerating easily available data	- Less depth per case - May require extensive resources and time	- Difficult to determine cause and effect - Participants may not recall important events	- May be difficult to do because of long time period

Standard Structure of a Case Study

In applied linguistics and language education, crafting a case study requires adherence to a structured framework that enhances clarity and depth and meticulously addresses the specific nuances of language education. This structured approach is essential for effectively communicating nuanced insights and begins with an introduction that sets the stage for the research (see Figure 4). The introduction must establish the research context and critically evaluate the reason for a case study approach. Authors such as Yin (2014) and Stake (1995) have underscored the importance of contextual depth, advocating for a discussion that clarifies why this methodology is particularly suited to the educational phenomena under investigation.

The literature review section extends the foundation laid by the introduction, situating the case study within the broader scholarly field. This part of the study engages with the existing literature, identifying gaps or contradictions that the case study seeks to explore or clarify, as Merriam (1988) and Cohen et al. (2013) have suggested. This critical engagement with the scholarly literature not only contextualizes the research but also sets the stage for a detailed exploration of the methodology employed in the study.

The methodology section is crucial. It details the research design and justifies the choice between single-case or multiple-case approaches. This discussion, enriched by references to Tight (2022), Yin (2014), and Stake (1995), enhances the section's criticality by discussing the limitations and strengths of the chosen methods in the context of the study. The choice of methodology significantly influences the depth and breadth of the investigation, laying the groundwork for the detailed case description that follows.

The case description presents the case(s) in detail, including contextual information about the educational settings and participants, as outlined by Yin (2014) and Tight (2022). This section critically examines how the selected case(s) contribute specifically to understanding the broader phenomenon, providing a bridge to the analysis and findings section. Here, data integration with theoretical perspectives is critically examined, referencing seminal works like Yin (1994, 2013, 2014, 2018) and Cohen et al. (2013). This part of the study critically discusses the implications of the findings for both theory and practice, highlighting any new insights or contradictions that may arise.

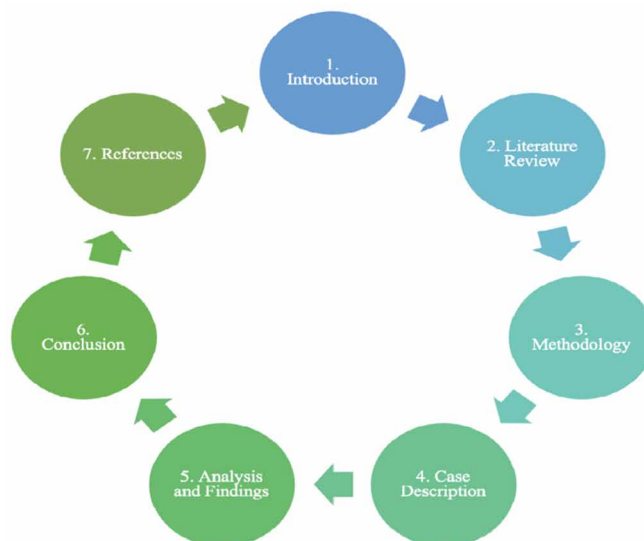
The conclusion synthesizes the key insights, critically assessing the impact of these findings on applied linguistics and language education. As noted by Stake (1995) and Yin (2014), revisiting the research questions includes discussing how the study contributes to or challenges existing literature and suggesting specific avenues for future research. This final section ties together the insights gained throughout the study, emphasizing the study's contribution to the field and outlining potential future research directions.

The standard structure of a case study in applied linguistics and language education is fundamental to ensuring methodological rigor and insightful findings. Each section of the survey, woven with connectors and flowing from one to the next, integrates theory with empirical data and justifies methodological choices, providing clarity and depth to the research. By adhering to this structured approach, researchers can deliver impactful insights that bridge theoretical and practical gaps in language education, ensuring that the study makes a meaningful contribution to the field.

Case Study Process

The process of conducting a case study in applied linguistics and language education represents a detailed undertaking through various research phases, each integral to exploring complex linguistic and educational phenomena. Drawing upon a rich tapestry of academic contributions, including those from

Figure 4. Standard structure of a case study



Stuart et al. (2002), this section outlines a structured pathway that guides researchers from inception to conclusion of their case study journey. The literature review stands at the outset of this journey, not merely as a foundational review of existing knowledge but as a pivotal mechanism for unveiling research opportunities. By critically engaging with the scholarly corpus, researchers establish a presupposition that details the identification of research gaps, thereby shaping pointed research questions and defining a strategic investigative plan or outline.

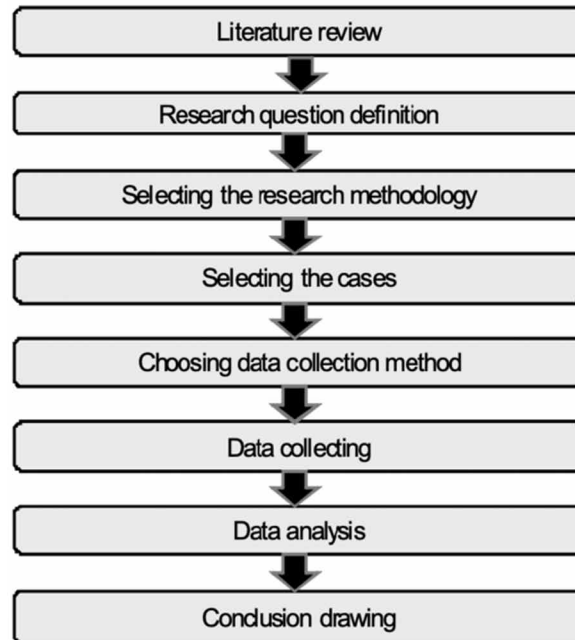
Figure 5 illustrates this process, delineating eight distinct phases of case study research. This model, synthesizing prior methodological insights with Kähkönen's (2014) practical experiences, highlights the iterative essence of case study research—a characteristic ensuring the methodological rigor and coherence of the research endeavor from its theoretical underpinnings to its empirical engagements.

In the realm of applied linguistics and language education, the literature review transcends its conventional boundaries, serving not only to inform but also to inspire the research journey. It initiates the formulation of research questions deeply rooted in the current academic discourse yet poised to challenge or extend it, ensuring that subsequent investigations contribute novel insights to the field. This phase is crucial for embedding the study within a broader scholarly conversation, setting the stage for grounded and visionary research that addresses the intricacies of language learning, teaching, and policy-making.

The structured case study process, as conceptualized through this phased approach, plays a critical role in advancing research in applied linguistics and language education. Facilitating a deep dive into specific linguistic or educational scenarios allows for a nuanced exploration of language as it intersects with cultural, social, and institutional contexts. This approach enriches our understanding of linguistic phenomena and informs the development of more effective teaching strategies, curricula, and policies tailored to diverse linguistic and educational environments. Thus, case studies emerge as a powerful tool for researchers and educators, enabling them to navigate the complex language education landscape with precision, depth, and relevance.

Case Study

Figure 5. The research process for case studies
(Kähkönen, 2014)



Data Collection Sources in Case Studies

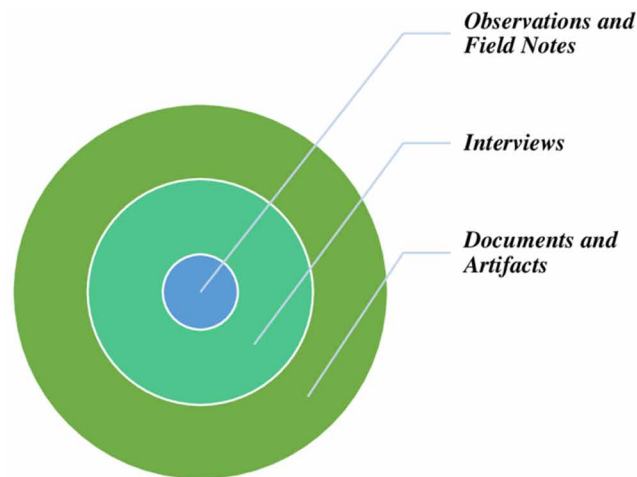
In applied linguistics and language education, the judicious selection and application of data collection sources in case studies are critical for a holistic understanding of the investigated phenomena. The diversity in data collection methods, as depicted in Figure 6, introduces depth to the research, enabling a rich, multidimensional exploration of the educational landscape. Employing various data sources, including observations, interviews, document analysis, and artifact examination, as highlighted by Merriam (1988) and Stake (1995), enriches the narrative and bolsters the reliability and validity of the research findings.

Observational techniques, which range from structured to unstructured, play a crucial role in capturing the dynamic nature of educational settings in their authentic context. Complemented by detailed field notes, these observations vividly portray the complexity and spontaneity inherent in language learning environments, as noted by Cohen et al. (2013). This immersive strategy is indispensable for documenting educational phenomena as they naturally unfold, offering researchers invaluable insights into aspects of the educational process that might otherwise remain hidden.

Interviews, varying from structured to semi-structured, serve as a vital pathway to understanding the experiences and perceptions of educators and learners. This method allows for an in-depth exploration of personal narratives, revealing the subjective interpretations and reflections that underpin the educational experience (Yin, 1994, 2013, 2014, 2018). The flexibility inherent in the interview process is essential for probing into the intricate details of language education, allowing for an adaptive and responsive approach to emerging themes.

The analysis of documents and artifacts adds a historical layer to case studies, illuminating the evolution and processes of educational practices over time. By examining curricular materials, student work,

Figure 6. Data collection sources



and other pedagogical documents, researchers can uncover the foundations and outcomes of educational strategies, providing a contextual backdrop for the study (Stake, 1995; Yin, 1994).

The continuum of data collection methods, spanning from unstructured observations to structured surveys, enables researchers to customize their approach according to the specific demands of their study (Cohen et al., 2013). This methodological diversity, accommodating both qualitative and quantitative data, ensures a thorough and multifaceted analysis that captures the complexity of educational phenomena (Khoa et al., 2023; Yin, 2018).

This methodological plurality fortifies the case study's infrastructure, guaranteeing a comprehensive and layered examination of applied linguistics and language education. Researchers can unearth profound and impactful insights by integrating empirical data with theoretical frameworks and maintaining a critical perspective on the research context. Adhering to this structured and diverse methodological approach not only enhances the depth of the investigation but also ensures that the findings significantly advance the field, offering valuable directions for future research and practice.

In essence, deploying case studies within applied linguistics and language education necessitates a meticulous balance of methodological considerations, including case selection and data collection strategies. By carefully aligning the research design with the study's objective, researchers can adeptly navigate the intricacies of language learning and teaching, contributing essential knowledge to the academic community and practical educational settings.

CASE STUDIES: QUALITY, IMPACTS, AND INSIGHTS

Engaging with case studies in applied linguistics and language education enables an incisive examination of the multifaceted nature of learning and pedagogical strategies. These methodological inquiries provide a critical lens through which the complex interplay of technological, socio-emotional, and instructional dynamics is elucidated. This section aims to scrutinize the contributions of case study research in advanc-

Case Study

ing theoretical paradigms and enhancing pedagogical practices while simultaneously acknowledging the methodological challenges and constraints inherent in such an approach.

Reliability, Validity, and Generalizability in Case Studies

In the specialized fields of applied linguistics and language education, the integrity of case study research is underpinned by adherence to the principles of reliability, validity, and generalizability. These benchmarks, however, encounter distinctive challenges given the inherently detailed and contextually rich nature of case studies. The application of traditional reliability and validity measures is complex, calling for a refined approach to safeguard the study's integrity and ensure its contributions are credible and meaningful.

Guidance from seminal authors like Cohen et al. (2013), Denzin (1984), Hitchcock & Hughes (1995), and Yin (1994) is invaluable in navigating these complexities. They advocate for rigorous case selection and clear articulation of study objectives, alongside the implementation of triangulation—a strategy depicted in Figure 7—to bolster the study's robustness and the potential for broader applicability of its findings.

The concept of 'validity' in this context, as expounded by Yin (1994) and Merriam (1988), pertains to the accuracy with which the study captures and reflects the intended phenomenon, directly impacting the credibility of the research and the utility of its conclusions. 'Reliability,' on the other hand, concerns the consistency of the research methodology and the replicability of its outcomes across similar scenarios. Achieving these standards demands careful planning and execution throughout the research process.

Yin (1994) and Merriam (1988) further emphasize methodological rigor and employing strategies such as triangulation, which involves leveraging diverse sources of evidence. This multipronged approach not only enriches the empirical foundation of the study but also strengthens its methodological underpinnings, enhancing both the validity and reliability of the research.

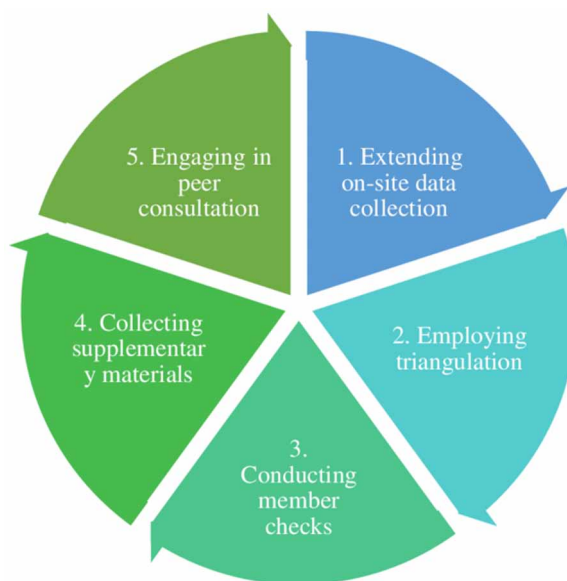
Merriam (1988) also outlines additional strategies to augment the validity, reliability, and generalizability of case studies. These include continual engagement in the field, triangulation and member oversight, supplementary data collection, and consultations with peers. Such practices reinforce the study's authenticity, ensuring that the qualitative research evaluation aligns more closely with the unique attributes of qualitative inquiry rather than being measured against quantitative standards.

By meticulously addressing these critical elements, researchers can elevate the caliber of case studies within applied linguistics and language education. Focused attention on ensuring validity and reliability and strategic use of triangulation paves the way for generating meaningful and applicable insights. This commitment to quality enriches the academic discourse and propels the field forward, fostering a deeper, more nuanced understanding of language learning and teaching phenomena.

Case Studies as Knowledge Contributors

Incorporating case studies in applied linguistics and language education has significantly deepened our understanding of the language learning and teaching processes. Through detailed investigations of specific instances, case studies offer unparalleled insights into the dynamic interplay of factors influencing language education (Andrade, 2009; Cameron et al., 2018; Duff, 2019; Flyvbjerg, 2011; Yin, 2018). This methodological approach facilitates a holistic examination of educational phenomena, allowing

Figure 7. Recommendations to enhance case study quality



researchers to explore complex interactions such as motivation, assessment, feedback, learner agency, and teaching strategies (Henry & Thorsen, 2018; Ma, 2017; Rasmitadila et al., 2020; Zhang & Hyland, 2018).

For example, Ma's (2017) study on mobile technologies in language learning provides crucial insights into how digital tools facilitate L2 acquisition, emphasizing the role of personalization in mobile-assisted language learning. Similarly, Henry and Thorsen's (2018) exploration of motivational influences within teacher-student relationships highlights the nuanced impact of interpersonal dynamics on language learning motivation.

Adapting case studies during the COVID-19 pandemic (Cheung, 2023; Rasmitadila et al., 2020) further illustrates their applicability in examining contemporary educational challenges. These studies offer a detailed understanding of educators' experiences and strategies, underscoring the importance of support systems during remote learning.

By meticulously analyzing these interactions, case studies provide a comprehensive view of the educational landscape and contribute significantly to the field's theoretical and practical advancement. The detailed and contextualized insights from such research underscore the value of case studies as a methodological approach in applied linguistics and language education, offering profound implications for researchers, educators, practitioners, and policymakers.

Impacts of Case Studies in Applied Linguistics and Language Education

Case studies, particularly in applied linguistics and language education, provide a unique lens through which specific phenomena can be examined, offering rich insights into the complexities of language learning and teaching processes. Researchers can uncover the nuanced interplay of factors affecting educational outcomes, such as teacher-student interactions, feedback mechanisms, technological integration, and pedagogical strategies by focusing on individual or multiple cases.

Case Study

However, a critical appraisal of these studies reveals several areas for improvement and modification. For instance, while case studies like those of Zhang and Hyland (2018) and Pearson (2022) illuminate the significant role of feedback in language learning, they also raise questions about the generalization of their findings. The specificity of case studies, while a strength in providing depth, can also be a limitation in applying outcomes across different contexts or broader populations. This highlights the need for careful consideration of context when interpreting findings and suggests a potential avenue for future research in exploring how these insights can be adapted and applied in diverse educational settings.

Moreover, the critical role of technology in language education, as explored by Ma (2017), underscores the evolving nature of learning environments and the importance of integrating digital tools in language pedagogy. Yet, this also points to the necessity for ongoing research into the effectiveness of these technologies and their impact on student engagement and learning outcomes. The rapid shift to online education during the COVID-19 pandemic, documented by Bao (2022) and others, further emphasizes this point, suggesting an urgent need for policies supporting digital literacy and access to ensure equitable learning opportunities.

Studies like Bayram and Bıkmaz (2021) offer valuable insights into the benefits of collaborative practices such as study of lesson planning in the realm addressing educator professional development. However, the challenges identified in implementing these approaches also highlight the importance of institutional support and resources in facilitating effective professional development. This suggests that broader systemic changes and support mechanisms may be necessary for such models to be successfully adopted.

In conclusion, while case studies significantly contribute to our understanding of applied linguistics and language education, critically examining their methodologies and findings reveals their strengths and limitations. Future research should focus on enhancing the generalizability of case study findings, further investigating the role of technology in language learning, and addressing the systemic challenges in educator professional development. By doing so, case studies can continue to offer compelling, timely insights and practical implications for improving language education.

CASE STUDIES: CHALLENGES, STRATEGIES, AND FUTURE DIRECTIONS

Case studies in applied linguistics and language education present unique challenges that require strategic navigation to ensure meaningful and reliable research outcomes. Researchers face many obstacles, from defining the scope and boundaries of each case to grappling with ethical considerations and data collection complexities. This section delves into these challenges, exploring strategies to overcome them and envisioning future directions for case study research in this dynamic field.

Implementation Challenges

Implementing case studies within applied linguistics and language education entails navigating a labyrinth of challenges that can significantly impact every research stage, from conception through analysis. These challenges, intrinsic to the method's engagement with complex social and cultural phenomena, demand a nuanced approach to ensure the research's validity and reliability (see Figure 8).

A pivotal concern is defining the scope and boundaries of the case. The multifaceted nature of applied linguistics and language education, embedded within varying social and cultural contexts, necessitates

precise delineation of what will be studied and what will lie beyond the study's purview. Such clarity, as Duff (2008) and Paltridge (2021) assert, is foundational, influencing not only the direction of the research but also the interpretation and the implementation of its outcomes.

Access to educational settings and ethical considerations pose another significant hurdle. The importance of navigating institutional protocols, securing informed consent, and upholding participants' confidentiality and anonymity underscores educational research's moral landscape. These considerations, emphasized by Duff (2008) and Creswell (2009), are non-negotiable and ensure the researcher upholds the highest standards of integrity and ethical conduct.

Moreover, collecting comprehensive data in environments characterized by the dynamic interplay of language learning and use presents its own challenges. While methodologically enriching, employing diverse data collection methods and the strategic use of triangulation, as recommended by Merriam (1998) and Stake (1995), also introduces logistical challenges in data management and integration.

The requirement for cultural and contextual sensitivity in research must be balanced. An acute awareness of and responsiveness to participants' cultural, social, and linguistic nuances is paramount, impacting both data collection and interpretation. Adhering to this sensitivity, highlighted in the works of Calder (2020) and Holliday (2016), acknowledges the profound influence of cultural and contextual dynamics on research findings in applied linguistics and language education.

The generalizability of findings from case studies is a frequently cited critique, reflecting the tension between the depth of insight provided by case studies and the challenge of extending these insights beyond the study's specific context. Yin (2014) and Flyvbjerg (2006) draw attention to the need for a delicate balance between detailed exploration and the broader relevance of the findings.

Lastly, maintaining objectivity and minimizing researcher bias is a critical yet challenging aspect of case study research. Vigilance against allowing personal preconceptions to color data collection and analysis is essential, necessitating a commitment to reflexivity and ongoing self-examination, as discussed by Malterud (2001) and Finlay (2002).

Addressing these challenges necessitates meticulous planning, ethical diligence, methodological sophistication, and an attuned sensitivity to the cultural and contextual specificities of the research setting. Successfully navigating these complexities can unlock the potential of case studies to yield profound and impactful insights, contributing significantly to applied linguistics and language education.

Possible Strategies

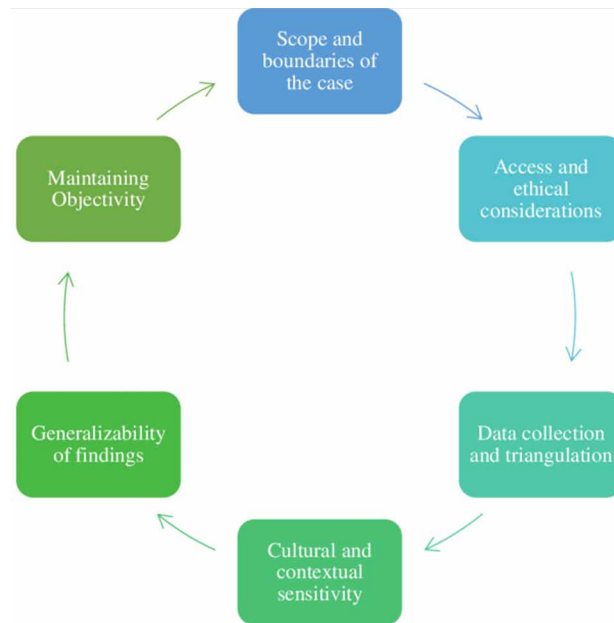
To navigate the intricacies and challenges of conducting case studies within applied linguistics and language education, researchers must embrace a comprehensive strategy characterized by methodological precision and thoughtful planning. The path to overcoming these hurdles, as depicted in Figure 9, involves several critical steps, each contributing to the research's overall integrity and effectiveness.

Selecting contextually rich cases that are directly relevant to the phenomena under study is paramount. This careful selection process minimizes biases and maximizes the relevance and depth of the investigation. As Yin (2014) recommends, such a meticulous approach to case selection plays a pivotal role in ensuring the research provides meaningful, in-depth insights, enhancing the study's quality and contributions to the field.

A successful case study's foundation further rests on applying rigorous research methodologies. Developing a robust research design, employing reliable and valid data collection and analysis techniques, and adhering to ethical standards throughout the research process are essential. Scholars such as Mer-

Case Study

Figure 8. Challenges in implementing case studies



riam (1988) and Stake (1995) highlight the emphasis on methodological rigor, which underscores its significance in bolstering the credibility and reliability of the findings.

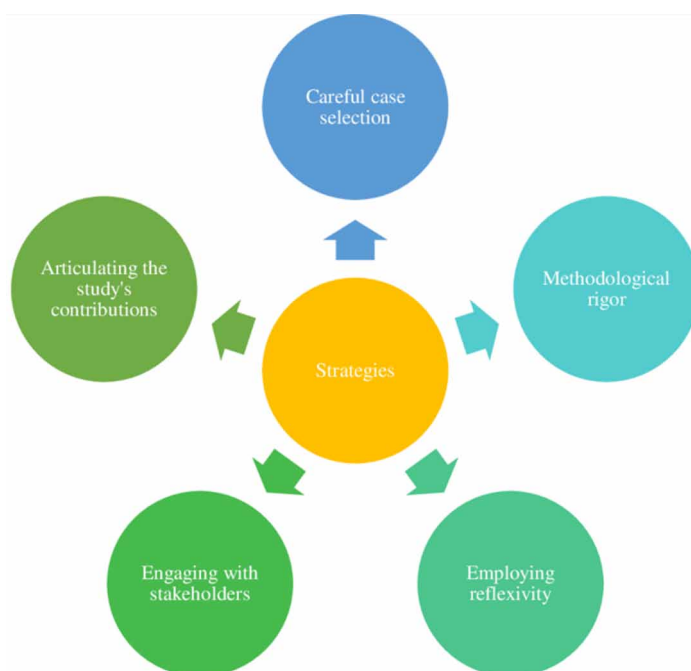
Moreover, maintaining reflexivity throughout the research process is crucial. Researchers engaged in case studies in applied linguistics and language education must continually reflect upon their assumptions, biases, and the potential influence of their positionality on the research outcomes. This practice of reflexivity, underscored by Denzin and Lincoln (2011), is fundamental to ensuring the transparency and integrity of the research, thereby enhancing its trustworthiness.

Furthermore, the engagement with various stakeholders—including participants, practitioners, and policymakers—enriches the research with diverse perspectives. As emphasized by Stake (1995), such collaborative interactions augment the richness of the research findings and bridge the gap between academic inquiry and practical application, ensuring that the research resonates with and is relevant to those it seeks to inform.

Finally, clearly articulating the study's contributions is essential. Researchers must delineate their work's novel insights, contextualize these findings within the broader academic discourse, and elucidate their implications for practice and policy. This strategic communication of the study's value, as advocated by Yin (2014), is critical in demonstrating the research's significance and impact within the larger field of applied linguistics and language education.

By adhering to these interconnected strategies, researchers can address the challenges associated with case study research, enhancing their work's credibility, relevance, and impact. Such a rigorous and reflective approach to research advances the understanding of language education. It contributes valuable insights that can inform theory and practice in applied linguistics' dynamic and complex landscape.

Figure 9. Strategies for overcoming the challenges



Future Research Directions

As the field of applied linguistics and language education progresses to include pedagogical implications, the pivotal role of case study, anchored in the foundational methodologies espoused by eminent scholars such as Stenhouse, Merriam, Stake, Creswell, Cohen et al., Holiday, Duff, and Yin, becomes increasingly pronounced. This forward-looking trajectory promises to expand our theoretical insights and pedagogical methodologies, underscoring the imperative for embracing a spectrum of exploratory directions that resonate with contemporary and emergent educational landscapes (see Figure 10).

Among these directions is integrating technology and digital tools within case study methodologies. The incorporation of advanced technological modalities for data collection, analysis, and dissemination—highlighting the significance of digital platforms for virtual learning environments (Cheung, 2023), the utilization of artificial intelligence in language processing (Marcelina & Wang, 2023), and the investigation of online interaction dynamics (Wu et al., 2023)—stands at the forefront of enriching our comprehension of language education in the digital age. These technological imperatives promise to deepen our understanding and augment learners' engagement and effectiveness in digitally mediated educational contexts.

Additionally, prioritizing diversity and inclusivity within research settings marks a crucial evolution in the field. Expanding research to encompass a broad array of linguistic communities and educational environments—ranging from multilingual contexts and remote learning scenarios to non-traditional educational models—emerges as essential for fostering a comprehensive understanding of language education phenomena. This inclusive approach, as exemplified by McKinley et al. (2024) on multilingualism, Tran's (2023) examination of remote learning environments, and Reznicek-Parrado's (2023)

Case Study

exploration of alternative pedagogical frameworks, enriches the field by introducing varied and often underrepresented perspectives into the discourse.

The emphasis on methodological innovations represents another pivotal area for future applied linguistics and language education case studies. The adoption of mixed-method approaches and the undertaking of longitudinal studies, as proposed by Wang et al. (2024) and Riazi & Farsani (2023), offers a lens through which a more holistic view of language learning processes can be achieved. Furthermore, integrating methodologies from ancillary disciplines, as demonstrated in Criado & González-Romero's (2023) interdisciplinary research, can yield novel insights and enrich the empirical base of case studies.

An intensified focus on cultural and contextual depth within case studies is imperative for ensuring the research's global applicability and cultural sensitivity. A more profound engagement with cultural nuances and educational practices across diverse socio-cultural backgrounds is crucial for maintaining relevance and ethical integrity for research endeavors. The significance of this artistic and contextual sensitivity is supported by the contributions of Rosiak (2023), Alshuraiaan (2023), and Lütge et al. (2023), underscoring the need for research that is both respectful and attuned to the complexities of varied educational contexts.

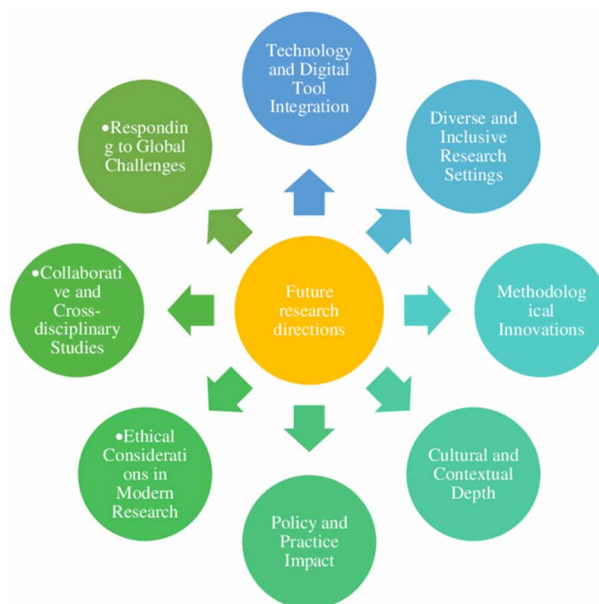
Moreover, the urgent need to enhance the impact of case study research on language education policies and practices is of great importance. Future studies should aim to generate findings that directly influence policymaking, curriculum development, and teaching methodologies, as illustrated by the works of Hassan (2023), Le et al. (2021), and Pikhart (2021). This pragmatic orientation ensures that research findings transcend academic boundaries, contributing substantively to improving language education practices.

Ethical considerations, particularly those related to digital data collection and participant privacy, are becoming prominent in the evolving landscape of applied linguistics and language education research. As the digital era progresses, ethical vigilance becomes increasingly critical, as highlighted in the surveys by Bryda and Costa (2023), Isaacs and Chalmers (2023), and Liu and Ma (2023). Ensuring ethical integrity in the face of rapidly changing digital methodologies is essential for maintaining the trust and privacy of research participants.

Lastly, cultivating collaborative and cross-disciplinary studies is envisaged as a catalyst for innovation within the field. By fostering collaborations that transcend institutional, geographical, and disciplinary boundaries, as exemplified by Chikamatsu and Jin (2023), Ikeda and Chikamatsu (2023), and Zhu et al. (2023), and research in applied linguistics and language education can achieve greater breadth and depth, incorporating a rich diversity of expertise and perspectives.

In sum, the future trajectory of case study research in applied linguistics and language education is characterized by a commitment to embracing technological advancements, advocating for diversity and inclusivity, pursuing methodological innovation, deepening cultural and contextual understanding, influencing policy and practice, prioritizing ethical considerations, and fostering collaborative and cross-disciplinary initiatives. These strategic orientations promise to advance our theoretical and practical knowledge of language education and ensure that case studies continue to serve as a robust and insightful tool in academic inquiry, adeptly addressing the dynamic challenges and opportunities of contemporary and future educational contexts.

Figure 10. Future research directions



CONCLUSION

The significance of case studies in applied linguistics and language education is unmistakably clear. We navigated through various case studies, including illustrative, exploratory, cumulative, critical instance, intrinsic, instrumental, and collective. Each demonstrated a unique ability to capture linguistic phenomena in their proper contexts. Case studies, meticulously designed and implemented with empirical rigor, as advocated by leading scholars, provide a systematic approach to enriching our understanding of the complexities in education. Employing a broad spectrum of data collection methods, from interviews to document analysis, these studies offer an in-depth view into language learning and teaching, showcasing the adaptability and methodological diversity of case studies. This comprehensive approach yields more profound insights into the intricate relationship between linguistic cognition and social environments, fostering an ongoing dialogue that shapes our perception of applied linguistics.

Reflecting on the contributions of this study, case studies emerge as more than a mere research method; they are narratives intertwined with the essence of language education, shedding light on the subtleties of language usage, learning, and teaching. Case study research's enduring value lies in its storytelling power, merging theory with practice, challenging conventional views, and proposing innovative solutions to educational challenges.

This investigation into case study research signals a call to action for educators, researchers, and policymakers to actively engage, contribute, and innovate within applied linguistics and language education. As we progress, the evolving realm of case study research holds the promise of enriching our theoretical understanding and inspiring transformative practices, ultimately enhancing language education in various contexts.

REFERENCES

- Alshuraiaan, A. (2023). Exploring the relationship between teacher-student interaction patterns and language learning outcomes in TESOL classrooms. *Journal of English Language Teaching and Applied Linguistics*, 5(3), 25–34. doi:10.32996/jeltal.2023.5.3.3
- Andrade, A. D. (2014). Interpretive research aiming at theory building: Adopting and adapting the case study design. *The Qualitative Report*. doi:10.46743/2160-3715/2009.1392
- Arora, P., Kumar, H., & Panigrahi, B. K. (2020). Prediction and analysis of covid-19 positive cases using deep learning models: A descriptive case study of India. *Chaos, Solitons & Fractals*, 139, 110017. doi:10.1016/j.chaos.2020.110017 PMID:32572310
- Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, 2(2), 113–115. doi:10.1002/hbe2.191 PMID:32510042
- Bardovi-Harlig, K. (1999). From morpheme studies to temporal semantics. *Studies in Second Language Acquisition*, 21(3), 341–382. doi:10.1017/S0272263199003010
- Başkarada, S. (2014). Qualitative case study guidelines. *The Qualitative Report*. doi:10.46743/2160-3715/2014.1008
- Bayram, İ., & Bıkmaz, F. (2021). Implications of Lesson Study for Tertiary-Level EFL Teachers' Professional Development: A Case Study From Turkey. *SAGE Open*, 11(2). doi:10.1177/21582440211023771
- Bryda, G., & Costa, A. P. (2023). Qualitative research in digital era: Innovations, methodologies and collaborations. *Social Sciences (Basel, Switzerland)*, 12(10), 570. doi:10.3390/socsci12100570
- Calder, G. (2020). Ethics and qualitative research. *Handbook of Qualitative Research in Education*. Springer. doi:10.4337/9781788977159.00017
- Cameron, D., Frazer, E., Harvey, P., Rampton, M. B. H., & Richardson, K. (2018). *Researching language: Issues of power and method*. Routledge. doi:10.4324/9780429436246
- Cheung, A. (2021). Language teaching during a pandemic: A case study of zoom use by a secondary ESL teacher in Hong Kong. *RELC Journal*, 54(1), 55–70. doi:10.1177/0033688220981784
- Chikamatsu, N., & Jin, L. (Eds.). (2023). *A Transdisciplinary Approach to Chinese and Japanese Language Teaching: Collaborative Pedagogy Across Languages, Disciplines, Communities, and Borders*. Taylor & Francis. doi:10.4324/9781003266976
- Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education*.
- Creswell, J. W. (2009). *Research designs. Qualitative, quantitative, and mixed methods approaches*.
- Criado, R., & González-Romero, P. (2023). *Exploring First Language Use in Non-Formal Foreign Language Education: A Mixed-Method Approach*. *Arab World English Journals* (Vol. 14). AWEJ.
- Denzin, N. (1984). *The research act*. Prentice Hall.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. Sage.

- Duff, P. A. (2014). Case study research on language learning and use. *Annual Review of Applied Linguistics*, 34, 233–255. doi:10.1017/S0267190514000051
- Duff, P. A. (2018). *Case study research in applied linguistics*. Routledge. doi:10.4324/9780203827147
- Duff, P. A. (2019). Case study research: Making language learning complexities visible. In *The Routledge handbook of research methods in applied linguistics* (pp. 144–153). Routledge. doi:10.4324/9780367824471-13
- Finlay, L. (2002). Negotiating the swamp: The opportunity and challenge of reflexivity in research practice. *Qualitative Research*, 2(2), 209–230. doi:10.1177/146879410200200205
- Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), 219–245. doi:10.1177/1077800405284363
- Flyvbjerg, B. (2011). *Case study. The Sage handbook of qualitative research*, 4, 301–316. Sage.
- Fox, S., & Macleod, A. (2021). Localizing the SDGs in cities: Reflections from an action research project in Bristol, UK. *Urban Geography*, 44(3), 517–537. doi:10.1080/02723638.2021.1953286
- Ghorbani, M., Eskandari-Damaneh, H., Cotton, M., Ghoochani, O. M., & Borji, M. (2021). Harnessing indigenous knowledge for climate change-resilient water management – lessons from an ethnographic case study in Iran. *Climate and Development*, 13(9), 766–779. doi:10.1080/17565529.2020.1841601
- Granberg, C., Palm, T., & Palmberg, B. (2021). A case study of a formative assessment practice and the effects on students' self-regulated learning. *Studies in Educational Evaluation*, 68, 100955. doi:10.1016/j.stueduc.2020.100955
- Guglielmin, M., Shankardass, K., Bayoumi, A. M., O'Campo, P., Kokkinen, L., & Muntaner, C. (2022). A realist explanatory case study investigating how common goals, leadership, and committed staff facilitate health in all policies implementation in the municipality of Kuopio, Finland. *International Journal of Health Policy and Management*. doi:10.34172/ijhpm.2022.6355 PMID:35247936
- Gustafsson, J. (2017). *Single case studies vs. multiple case studies: A comparative study*.
- Halinen, A., & Törnroos, J. (2005). Using case methods in the study of contemporary business networks. *Journal of Business Research*, 58(9), 1285–1297. doi:10.1016/j.jbusres.2004.02.001
- HassanA. (2023). Developing an ESP-Based Language Learning Environment to Help Students Improve Critical Thinking Skills in Written Output. SSRN.
- Henry, A., & Thorsén, C. (2018). Teacher–student relationships and l2 motivation. *Modern Language Journal*, 102(1), 218–241. doi:10.1111/modl.12446
- Hitchcock, G., & Hughes, D. (1995). *Research and the Teacher* (2nd ed.). Routledge.
- Holliday, A. (2016). *Doing and Writing Qualitative Research*. SAGE Publications.
- Ikeda, K., & Chikamatsu, N. (2023). *Transcending borders and limitations with digitally enhanced pedagogy. A Transdisciplinary Approach to Chinese and Japanese Language Teaching: Collaborative Pedagogy Across Languages*. Disciplines, Communities, and Borders.

Case Study

- Isaacs, T., & Chalmers, H. (2023). Reducing ‘avoidable research waste’ in applied linguistics research: Insights from healthcare research. *Language Teaching*, 1–18. doi:10.1017/S0261444823000411
- Jeblick, K., Schachtner, B., Dexl, J., Mittermeier, A., Stüber, A. T., Topalis, J., Weber, T., Wesp, P., Sabel, B. O., Ricke, J., & Ingrisch, M. (2023). Chatgpt makes medicine easy to swallow: An exploratory case study on simplified radiology reports. *European Radiology*. Advance online publication. doi:10.1007/s00330-023-10213-1 PMID:37794249
- Kähkönen, A. (2014). Conducting a case study in supply management. *Operations and Supply Chain Management: An International Journal*, 31-41.
- Kearney, S. (2019). The challenges of beginning teacher induction: A collective case study. *Teaching Education*, 32(2), 142–158. doi:10.1080/10476210.2019.1679109
- Khoa, B. T., Hung, B. P., & Brahmi, M. (2023). Qualitative research in social sciences: Data collection, data analysis and report writing. *International Journal of Public Sector Performance Management*, 12(1/2), 187–209. doi:10.1504/IJPSPM.2023.132247
- Kirkham, E. (2018). *Study: Here’s How Much College Credits Actually Cost*.
- Le, M. D., Nguyen, H. T. M., & Burns, A. (2021). English primary teacher agency in implementing teaching methods in response to language policy reform: A Vietnamese case study. *Current Issues in Language Planning*, 22(1-2), 199–224. doi:10.1080/14664208.2020.1741209
- Léger, M., Laroche, A., & Pruneau, D. (2020). Exploring the use of design thinking as a strategy for environmental problem-solving in post-secondary civil engineering students. *INTED Proceedings*, 921. doi:10.21125/inted.2020.0329
- Leonard, J. (2011). Using Bronfenbrenner’s ecological theory to understand community partnerships. *Urban Education*, 46(5), 987–1010. doi:10.1177/0042085911400337
- Liu, G., & Darvin, R. (2024). From rural China to the digital wilds: Negotiating digital repertoires to claim the right to speak. *TESOL Quarterly*, 58(1), 334–362. doi:10.1002/tesq.3233
- Liu, G., & Ma, C. (2023). Measuring EFL learners’ use of Chat GPT in informal digital learning of English based on the technology acceptance model. *Innovation in Language Learning and Teaching*, ●●●, 1–14.
- Lütge, C., Merse, T., & Rauscher, P. (2023). *Global citizenship in foreign language education: Concepts, practices, connections*. Taylor & Francis.
- Ma, Q. (2017). A multi-case study of university students’ language-learning experience mediated by mobile technologies: A socio-cultural perspective. *Computer Assisted Language Learning*, 30(3-4), 183–203. doi:10.1080/09588221.2017.1301957
- Malterud, K. (2001). Qualitative research: Standards, challenges, and guidelines. *Lancet*, 358(9280), 483–488. doi:10.1016/S0140-6736(01)05627-6 PMID:11513933
- Marcelina, S. R. D., & Wang, L. (2023). EFL Student’s Perception of Teachers’ Hybrid Teaching Style: A Case Study. *Journal of Applied Linguistics and English Education*, 1(1), 18–27. doi:10.36456/jalle.v1i1.7319

- McKinley, J., Zhang, L. J., Elola, I., Hennebry-Leung, M., Zheng, Y., Greenier, V., Thomas, N., & Matzler, P. (2024). Fifty years of System research and projections for the future. *System*, *121*, 103210. doi:10.1016/j.system.2023.103210
- Merriam, S. B. (1985). The case study in educational research: A review of selected literature. *The Journal of Educational Thought (JET)/Revue de la Pensée Educative*.
- Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. Jossey-Bass.
- Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education*. Jossey-Bass Publishers.
- Moed, H. F. (2006). *Citation analysis in research evaluation* (Vol. 9). Springer Science & Business Media.
- Oglu, H. A. H. (2023). Task-Based Teaching, Learning, and Assessment in ELT: A Case Study of Innovative Practices. *International Journal of Philosophical Studies and Social Sciences*, *3*(5), 25–33.
- Owens, D. C., Sadler, T. D., & Friedrichsen, P. (2019). Teaching practices for enactment of socio-scientific issues instruction: An instrumental case study of an experienced biology teacher. *Research in Science Education*, *51*(2), 375–398. doi:10.1007/s11165-018-9799-3
- Paltridge, B. (2021). *Discourse analysis: An introduction*. Bloomsbury Publishing.
- Pearson, W. S. (2022). Student Engagement with Teacher Written Feedback on Rehearsal Essays Undertaken in Preparation for IELTS. *SAGE Open*, *12*(1), 1–17. doi:10.1177/21582440221079842
- Pikhart, M. (2021). Human-computer interaction in foreign language learning applications: Applied linguistics viewpoint of mobile learning. *Procedia Computer Science*, *184*, 92–98. doi:10.1016/j.procs.2021.03.123
- Priya, A. (2021). Case Study Methodology of Qualitative Research: Key Attributes and Navigating the Conundrums in Its Application. *Sociological Bulletin*, *70*(1), 94–110. doi:10.1177/0038022920970318
- Rasmitadila, A., Rusmiati, R. R., Samsudin, A., Achmad, S., Nurtanto, M., Muhammad, T., & Suryanti, A. R. (2020). Primary school teachers' perceptions of online learning during the covid-19 pandemic period: a case study in Indonesia. *Journal of Ethnic and Cultural Studies*, 90-109.
- Rellstab, D. H. (2023). Building Bridges Across Borders and Digital Divides? In *International Seminar on Language, Education, and Culture (ISoLEC 2022)* (pp. 46-55). Atlantis Press. 10.2991/978-2-38476-038-1_6
- Reznicek-Parrado, L. M. (2023). *The Peer-effect: Non-traditional Models of Instruction in Spanish as a Heritage Language*. Taylor & Francis. doi:10.4324/9781003191179
- Riazi, A. M., & Farsani, M. A. (2023). Mixed-methods research in applied linguistics: Charting the progress through the twenty-first century's second decade. *Language Teaching*, 1–40.
- Ridley-Duff, R. (2008). Social enterprise as a socially rational business. *International Journal of Entrepreneurial Behavior & Research*, *14*(5), 291–312.

Case Study

- Robson, C. (2002). *Real World Research: A Resource for Social Scientists and Practitioner-researchers*. Wiley Publishing.
- Rosiak, K. (2023). The role of language attitudes and ideologies in minority language learning motivation: A case study of Polish migrants'(de) motivation to learn Welsh. *European Journal of Applied Linguistics*, 11(1), 26–52. doi:10.1515/eujal-2021-0018
- Runeson, P., Höst, M., Rainer, A., & Regnell, B. (2012). *Case Study Research in Software Engineering: Guidelines and Examples*. Wiley Publishing. doi:10.1002/9781118181034
- Stake, R. E. (1995). *The Art of Case Study Research*. SAGE Publications.
- Stenhouse, L. (1985). A Note on Case Study and Educational Practice. In R. Burgess (Ed.), *Field Methods in the Study of Education*. The Falmer Press.
- Stuart, I., McCutcheon, D., Handfield, R., McLachlin, R., & Samson, D. (2002). Effective case research in operations management: A process perspective. *Journal of Operations Management*, 20(5), 419–433. doi:10.1016/S0272-6963(02)00022-0
- Tight, M. (2022). Designing case studies. *The SAGE Handbook of Qualitative Research Design*, 399–413.
- Tran, T. T. (2023). Online-Merge-Offline Model for distance learning in English language education: A case study. *Vietnam Journal of Education*, 7(3), 215–226. doi:10.52296/vje.2023.251
- Voss, C. (2010). Case research in operations management. In *Researching operations management* (pp. 176–209). Routledge.
- Wang, Y., & Stockwell, G. (2023). Social justice and technology in second language education. *Iranian Journal of Language Teaching Research*, 11(3 (Special Issue)), 1–18.
- Wang, Y., Xu, J., Li, H., & Qi, J. (2024). The impact of future L2 selves and positive emotions on self-regulated writing strategies: A mixed method approach. *Language Teaching Research*, 13621688241229534. doi:10.1177/13621688241229534
- Wu, J. G., Zhang, D., & Lee, S. M. (2023). Into the Brave New Metaverse: Envisaging Future Language Teaching and Learning. *IEEE Transactions on Learning Technologies*.
- Yin, R. K. (1994). *Case Study Research: Design and Methods* (2nd ed.). Sage Publications.
- Yin, R. K. (1994). Discovering the future of the case study. *Method in evaluation research*. *Evaluation Practice*, 15(3), 283–290.
- Yin, R. K. (2013). Validity and generalization in future case study evaluations. *Evaluation*, 19(3), 321–332. doi:10.1177/1356389013497081
- Yin, R. K. (2014). *Case Study Research: Design and Methods* (5th ed.). Sage Publications.
- Yin, R. K. (2018). *Case study research and applications* (Vol. 6). Sage Publications.
- Zhang, Z. V., & Hyland, K. (2018). Student engagement with teacher and automated feedback on L2 writing. *Assessing Writing*, 36, 90–102. doi:10.1016/j.asw.2018.02.004

Zhu, Y., Liu, Y., Yang, N., & Newton, J. (2023). Changing teacher educator cognition within a collaborative teacher education programme for CLIL: A case study in China. *Language Teaching Research*, 13621688231179513. doi:10.1177/13621688231179513

Zittoun, T. (2020). Imagination in people and societies on the move: A sociocultural psychology perspective. *Culture & Psychology (Irvine, Calif.)*, 26(4), 654–675.

Zulyadi, R. (2020). Police's role in investigation process of fraud criminal act of civil servants candidate (case study of police station binjai). *Britain International of Humanities and Social Sciences (BIOHS) Journal*, 2(2), 403–411.

ADDITIONAL READINGS

Calder, G. (2020). Ethics and qualitative research. *Handbook of Qualitative Research in Education*. doi:10.4337/9781788977159.00017

Cameron, D., Frazer, E., Harvey, P., Rampton, M. B. H., & Richardson, K. (2018). *Researching language: Issues of power and method*. Routledge. doi:10.4324/9780429436246

Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education*.

Creswell, J. W. (2009). *Research designs. Qualitative, quantitative, and mixed methods approaches*.

Duff, P. A. (2018). *Case study research in applied linguistics*. Routledge. doi:10.4324/9780203827147

Flyvbjerg, B. (2011). *Case study. The Sage handbook of qualitative research*, 4, 301-316. Sage.

Gustafsson, J. (2017). *Single case studies vs. multiple case studies: A comparative study*.

Hitchcock, G., & Hughes, D. (1995). *Research and the Teacher* (2nd ed.). Routledge.

Holliday, A. (2016). *Doing and Writing Qualitative Research*. SAGE Publications.

Malterud, K. (2001). Qualitative research: Standards, challenges, and guidelines. *Lancet*, 358(9280), 483–488. doi:10.1016/S0140-6736(01)05627-6 PMID:11513933

Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education*. Jossey-Bass Publishers.

Robson, C. (2002). *Real World Research: A Resource for Social Scientists and Practitioner-researchers*. Wiley Publishing.

Stake, R. E. (1995). *The Art of Case Study Research*. SAGE Publications.

Tight, M. (2022). Designing case studies. *The SAGE Handbook of Qualitative Research Design*, 399-413.

Yin, R. K. (2018). *Case study research and applications* (Vol. 6). Sage Publications.

KEY TERMS AND DEFINITIONS

Case Study: A research approach focusing on the in-depth investigation of a specific instance or phenomenon within its real-life context.

Contextual Analysis: A research method focused on understanding the context in which a subject operates, including cultural, social, and environmental factors.

Cultural Sensitivity: Acknowledging and respecting research participants' cultural differences and backgrounds.

Digital Learning Environments: Platforms and contexts where learning occurs through digital means, including online courses, virtual classrooms, and educational software.

Digital Tools in Research: The use of advanced technology for data collection, analysis, and presentation in research.

Methodological Rigor: The application of thorough and consistent research methods, ensuring reliability and validity in data collection and analysis.

Stakeholder Engagement: Involving various parties, such as participants, practitioners, and policy-makers, in the research process to enhance the study's relevance and applicability.

Triangulation: Employing multiple methods or data sources in a study to enhance the reliability of the findings.

Chapter 13

Experimental Research

Nhat Truong Tran Minh

Industrial University of Ho Chi Minh City, Vietnam

Rizgar Qasim Mahmood

 <https://orcid.org/0000-0002-5987-8884>

University of Wollongong, Australia

ABSTRACT

Nowadays, researching and innovating teaching processes is vital for teachers at higher education to improve their teaching quality, especially in applied linguistics and language education. experimental research is a useful approach for researchers, educators, teachers and managers at universities. The chapter may aim to achieve the following objectives: (1) Present a comprehensive overview of experimental research methodologies; (2) Provide guidelines for designing experiments, including defining research questions, selecting appropriate variables, and establishing control conditions; (3) Discuss various data collection methods, including observation, surveys, and laboratory experiments; (4) Detail the importance of random assignment and statistical analysis techniques to ensure robust results; (5) Highlight ethical considerations and potential limitations in experimental research; (6) Showcase examples of successful experimental studies in different disciplines to provide practical insights.

INTRODUCTION

Imagine you are teaching second language (L2) pronunciation to a new class of learners. As you observe their performance, you notice their pronunciation skills are inadequate, with some struggling to articulate basic sounds of the target language (TL). This prompts you to consider the use of Oral Corrective Feedback (OCF) techniques (Li, 2018; Lyster, Saito, & Sato, 2013; Saito, 2021).

During each lesson, when a learner makes an error, you provide them with the correct form of their errors. This feedback can be explicit, directly informing them of their mistake and providing the correct form, or indirect, such as repeating the word, phrase, or sentence with the correct pronunciation (Bry-fonski & Ma, 2020; Mahmood, 2023).

DOI: 10.4018/979-8-3693-2603-9.ch013

Experimental Research

After some time, you question whether the provision of OCF effectively improves learners' pronunciation abilities. How can you find answers to this question? These inquiries aren't limited to the realm of L2 teaching; people ask similar questions in their daily lives and seek answers (Gonzalez-Marquez, Mittelberg, Coulson, 2003). Therefore, it can be concluded that academic research is a process of investigation that revolves around posing questions and seeking corresponding answers (Nunan, 1992). In that sense, academic research is defined as "an intellectual act to discover new facts or knowledge by attempting to go beyond existing knowledge" (Phakiti, 2015, p. 4). Therefore, the following sections will explore how to approach such questions using the scientific methodology, focusing on experimental research. Additionally, practical considerations will be addressed to serve as a preliminary guide for conducting experimental research.

EXPERIMENTAL RESEARCH

Experimental Research in Applied Linguistics and Language Education

As a reader, when you encounter the term "experiment" for the first time, you might immediately envision a scenario where a team of scientists meticulously observes subjects, perhaps plants, within a controlled setting or working with chemical substances, striving to formulate cures for serious diseases. In language pedagogy, experimental research methods resemble those utilised in the aforementioned example. However, they focus on language learners and seek to comprehend various aspects of their learning process. For instance, in language learning, researchers may investigate whether specific teaching strategies (e.g., the provision of OCF or activities can improve learners' learning outcomes. They might also examine whether certain linguistic conditions pose challenges for language acquisition among learners.

Unlike the botanical example mentioned earlier, experimental research in language learning typically does not take place in a highly controlled scientific laboratory. Instead, participants, namely language learners, are not confined and can interact with the external environment. It is impractical for language learning researchers to attempt complete control over these interactions, and doing so could raise ethical concerns (Phakiti, 2015). Experimental research entails examining the impact of one variable on another. Essentially, a researcher begins with a hypothesis about why a certain phenomenon occurs and then alters at least one variable while controlling others to observe its effect on another variable. For instance, suppose we aim to determine if directing a learner's attention to a specific aspect of language enhances their learning of that aspect. One approach is to select two groups of learners matched in their pre-existing knowledge of the language aspect. Subsequently, the experimental group undergoes a treatment session where their focus is directed towards the particular language feature being investigated, whereas the control group receives exposure to the same aspect of language without the intentional direction of attention. Following the treatment, a post-test is administered to assess improvement from the pre-test. In essence, experimental research involves manipulating at least one variable (independent variable) while keeping other relevant variables constant and observing its effect on another variable (dependent variable), such as a test score (Gass, 2015). In addition to this example mentioned above, several other examples illustrate how researchers conduct experimental research among targeted groups of participants. For instance, Mahmood (2023) explored the impacts of explicit and implicit pronunciation instruction on the development of pronunciation skills among Kurdish EFL learners. Similarly, Saito (2021) examined the effects of different types of OCF, such as "recasts" and prompts, on learners'

pronunciation. Based on these two examples, it is evident that experimental studies compare research outcomes, such as learners' performance, based on the conditions to which learners are exposed.

Experimental research serves as a valuable methodology for studies aiming to elucidate causal relationships. This method helps researchers meticulously control extraneous factors by maintaining consistency across groups while intentionally varying the degree of the variable of interest among different learner groups. In so doing, the researcher(s) attempts to explore causal-like relationships. Experimental research is typically situated within a quantitative research framework which is frequently utilized in language learning research. As this method is rooted in the active theory of causation, it attempts to pinpoint variables which can be manipulated by the researchers. These manipulations help researchers to induce changes (Cook & Shadish, 1994; Johnson & Christensen, 2019; Phakiti, 2015). Experimental research is a primary method for testing hypotheses and establishing cause-effect relationships. It offers the most robust form of reasoning regarding the connections between variables. In experimental research, the researcher(s) intentionally alters at least one independent variable, while maintaining control over other relevant variables, and then observes the effects on one or more dependent variables (Mills & Gay, 2018).

In experimental research, it is essential to differentiate between experimental and quasi-experimental designs. In experimental designs, a primary focus is typically on the dependent variable(s), which represents what the researcher is investigating for potential change. Concurrently, one or more independent variables are systematically manipulated by the researcher to assess their impact on the dependent variable(s). Researchers have the flexibility to include or exclude specific independent variables and adjust their intensity as needed. To evaluate the effects of independent variables, researchers often conduct pre-tests and post-tests, with the treatment administered between these testing sessions. The experimental design also encompasses random assignment of participants to groups and the inclusion of a control group. However, many research studies in Second Language Acquisition (SLA) are quasi-experimental rather than truly experimental. Unlike experimental designs, quasi-experimental designs typically lack random group assignment and instead rely on convenience sampling. Moreover, quasi-experimental designs may not require a control group and might involve intact classes for different groups. Another key distinction between experimental and quasi-experimental designs is the presence of a control group. While quasi-experimental studies may feature multiple treatment groups, without a control group, it becomes challenging to ascertain whether these groups would have performed significantly better than a group that did not receive any treatment (Cook & Wong, 2008; Kirk, 2009, 2012; Loewen & Plonsky, 2015; Phakiti, 2015; Rogers & Révész, 2023).

Advancing Scientific Knowledge through Experimental Research

Experimental research plays a crucial role in advancing scientific knowledge in various fields, including applied linguistics and L2 education. Through experimental studies, researchers can systematically investigate causal relationships between variables and test hypotheses. This approach allows for rigorous testing of theories and provides empirical evidence to support or refute existing beliefs or assumptions (Ledyard, 1995). Moreover, experimental research can help researchers establish cause-and-effect relationships in the research process. Through carefully designed experiments, researchers can manipulate and control variables to determine their effects on a particular outcome (Rogers & Révész, 2023). This allows them to identify the factors that contribute to the success of language learning or teaching, providing valuable information for practitioners and policymakers in the field. Furthermore, experimental research allows for the replication of studies, enhancing the credibility and generalizability of findings

Experimental Research

(Higgins, Murphy, & Hogg, 2021). Replication is essential in science as it helps to validate or challenge previous results, ensuring that the knowledge generated is reliable and robust. Experimental research also promotes transparency and openness in scientific inquiry since researchers are required to provide detailed descriptions of their methodologies and procedures, allowing transparency in the research process (Escueta, Nickow, Oreopoulos, 2020).

In applied linguistics and language education, experimental research is particularly valuable for informing instructional practices in teaching and policy decisions in management. By examining the effects of specific instructional techniques, interventions, or technologies, researchers can provide evidence-based recommendations for improving language learning and teaching (Fang, Yeh, Luo, 2021). This knowledge can then be used to develop more effective teaching materials, design targeted interventions for language learners, and inform educational policies and practices. In general, through experimental research, researchers can provide valuable information and evidence-based recommendations to improve language learning and teaching practices.

KEY ELEMENTS IN EXPERIMENTAL RESEARCH

Experimental research demands a robust methodology to explore whether and to what extent specific factors, such as types of instructions, input, or interactions, can enhance or impede language learning (Phakiti, 2015). Before conducting a study using experimental research, a researcher must consider various specifics to ensure methodological rigour and ethical conduct. These include formulating research questions and hypotheses, identifying variables, determining participant assignment methods, selecting appropriate statistical analyses, and addressing validity and reliability concerns. Within validity considerations, researchers must assess content validity, face validity, construct validity, and criterion-related validity, while also addressing internal and external validity concerns. Additionally, it is vital for the researcher(s) to carefully consider the techniques and instruments used in data collection and analyses. Moreover, ethical considerations, such as participant rights and confidentiality, must be thoroughly addressed throughout the research process (Creswell & Creswell, 2022; Gass, 2015; Kaiser, 2014; Kirk, 2009; McDonough, 2019; Phakiti, 2015).

Research Questions

Understanding the nature of research questions in experimental research is crucial. These questions should be articulated and grounded in previous literature (Gass, 2015; Phakiti, 2015). For instance, previous research has investigated the effects of OCF and its types on the development of L2 learners' pronunciation and sound production. These studies have explored how different forms of Corrective Feedback (CF) affect the written or spoken aspects of an L2 within specific contexts. Subsequently, an experimental study could be conducted to compare the outcomes of learners' accurate sound production development based on different types of feedback provided under uniform conditions or across varied contexts. By employing an experimental research design, researchers may address the research question: "To what extent does explicit OCF enhance L2 learners' ability to accurately produce L2 target sounds?"

Ideally, researchers aim to maintain consistent environmental conditions across all comparison groups, except the variable under investigation. For instance, group 1 might receive explicit OCF, group 2 might receive implicit OCF, and group 3 might undergo traditional pronunciation instruction without any OCF

provision. Subsequently, researchers can statistically compare learners' observed learning outcomes, such as sound production scores obtained from pre-tests, post-tests, or even delayed post-tests, both within and across groups (Mahmood, 2023).

The following examples are experimental research questions:

Do recasts have differential effects on the acquisition of regular versus irregular English past tense forms? Do prompts have differential effects on the acquisition of regular versus irregular English past tense forms? (Yang & Lyster, 2010, p. 242).

Do different Form-Focused Instructions (FonFs and FonF) have different effects on L2 Chinese learners' oral production? Does L2 proficiency modulate the learning outcomes in different pedagogical approaches? (Chen & Li, 2022, p. 4).

Research Hypotheses

Definition

The research hypothesis serves as a cornerstone for conducting a research study. Its absence would hinder our understanding of key research components, limiting the scope of conclusions drawn. A hypothesis serves as a tentative idea or proposition proposed to ascertain its validity. In research, a hypothesis is a statement that poses a question and predicts potential outcomes (Toledo, Flikkema, & Toledo-Pereyra, 2011). The protocol's findings should substantiate a well-defined research hypothesis (Bartoszynski & Niewiadomska-Bugaj, 2007; Toledo-Pereyra, 2011). Mills and Gay (2018, p. 85) defined a research hypothesis as "A researcher's prediction of research findings, a statement of the researcher's expectations about the relations among the variables in the research problem." They, further, stated that the researcher's objective is not to confirm a hypothesis but to gather data that either supports or refutes it. A hypothesis assumes a crucial role within the scientific method as it establishes a foundation for testing established theories. For instance, a hypothesis could examine the efficacy of OCF on the development of pronunciation skills among L2 learners.

Types of Hypotheses

Hypotheses can be categorized based on their derivation (*inductive* versus *deductive* hypotheses) or their statement (*directional* versus *null hypotheses*). An *inductive hypothesis* is a generalization based on specific observations. Researchers observe certain patterns or associations among variables in multiple situations and use these tentative observations to formulate an inductive hypothesis. For instance, a researcher noticed that in some eighth-grade classrooms, learners who take essay tests appear to exhibit less test anxiety than those who take multiple-choice tests. This observation could serve as the foundation for an inductive hypothesis. On the other hand, a *deductive hypothesis* stems from theory and provides evidence that supports, expands, or challenges the theory. A research hypothesis outlines an anticipated relationship or difference between variables. Research hypotheses may take the form of *nondirectional* or *directional*. A *nondirectional* hypothesis states that a relationship or difference between variables exists. Conversely, a *directional* hypothesis specifies the expected direction of the relationship or difference (Creswell & Creswell, 2022; Gass, 2015; Mills & Gay, 2018; Sheskin, 2011).

Experimental Research

Statistically, researchers employ both *null* and *alternative* hypotheses. The *null hypothesis* posits no significant difference and is denoted as H_0 . Conversely, the *alternative hypothesis* indicates a significant difference and is represented by H_A or H_1 (Sheskin, 2011; Toledo et al., 2011). Take the effects of OCF on L2 learners' accurate sound production, the null hypothesis states that There is no statistically significant difference between variables, that is, if the researcher found that the L2 learners' ability to produce L2 sound accurately did not improve after the provision of OCF, then, the null hypothesis will be accepted. However, if the results show statistically significant differences between the variables, then, the alternative hypothesis will be accepted. As Sheskin (2011, p. 58) puts "The *null hypothesis* is a statement of *no effect* or *no difference*... The *alternative hypothesis*, on the other hand, represents a statistical statement indicating the *presence of an effect* or a *difference*."

Variables

The term "variable" originates from the word "vary." Age serves as a prime example of a variable due to the wide age range observed among individuals. Phakiti (2015) gives other examples of variables such as gender, first language (L1), length of learning, intelligence, proficiency in the English language, motivation, anxiety, and feedback.

Experimental research designs can be classified based on the number of *independent* and *dependent* variables utilized in the study (Loewen & Plonsky, 2015). The independent variable, manipulated by the researcher, contrasts with the dependent variable, which is measured. For instance, in a hypothetical investigation concerning accent judgments, the independent variable might be whether the participant is a native or non-native speaker, while a potential dependent variable could be the scores obtained on the accent judgment test. In this scenario, with only one independent variable, the experiment is termed single-factor, and as this independent variable encompasses two groups, it is regarded as having two levels. Lastly, since there is just one dependent variable (scores), the design would be categorized as a univariate design (Abbuhl, Gass, & Mackey, 2014). Furthermore, Gass (2015) also stated that in experimental research, two primary variables are of utmost concern: independent variables and dependent variables. "An independent variable is a variable that exists freely and is hypothesized to affect other variables" (Phakiti, 2015, p. 27). Dependent variables, on the other hand, are influenced by the independent variable, reflecting the variables upon which the independent variable exerts its effect. For instance, in the example of OCF and sound production improvement, OCF is the independent variable and sound production improvement is the dependent variable. Thus, "Dependent variables are those variables that the independent variable is affecting" (Gass, 2015, p. 91).

Participants and Recruitment

Research in the field of language always involves human participants. For example, when a researcher conducts research with L2 learners, the participants are those who speak, write, read, or listen to the language under study. Researchers may interact with these individuals in various ways, including in-person interactions, communication over phones and other media, or analysis of texts produced by these individuals for different purposes. Depending on the specific context and nature of the research, individuals involved may be referred to by different terms such as subject, informant, participant, collaborator, consultant, and possibly others (Abbuhl et al., 2014; Creswell & Creswell, 2022; Loewen & Plonsky, 2015).

Once the researcher has decided to conduct the research experimentally, the next step involves recruiting participants. Typically, specific conditions are established for participant selection (Creswell & Creswell, 2022), such as being over 18 years old, speaking a particular language as their L1, being in English as a Foreign Language (EFL) or English as a Second Language (ESL) context, or having a certain proficiency level. Researchers frequently inquire, “What is an adequate number of participants?” Qualitative researchers typically respond with, “It varies.” There are no rigid guidelines dictating the “ideal” number of participants. Qualitative inquiries can be conducted with just one participant or with larger groups comprising 60 to 70 individuals, encompassing diverse contexts (Mills & Gay, 2018). In addition to that, Mills and Gay (2018) propose two primary criteria to indicate the adequacy of participant selection. Firstly, researchers assess the extent to which the chosen participants mirror the diversity found within the broader population. Secondly, researchers consider the redundancy of information obtained from participants. Finally, after the recruitment process, the participants are divided may be divided into several groups: control and experimental group(s).

A control group is a group of participants who do not receive the intervention or manipulation of the independent variable (Nieuwburg, Ploeger, & Kret, 2021). The control group serves as a baseline against which the effects of the independent variable are compared. In the case of the feedback study, the control group would be the group of students who do not receive any feedback on their writing.

An experimental group is a group of participants who receive the intervention or manipulation of the independent variable (Mattila, Luo, Xue, 2021). They are exposed to the condition being studied. In the feedback study, the experimental group would be the group of students who receive corrective feedback or no feedback on their writing. The purpose of the experimental group(s) is to observe and compare the effects of the independent variable on the dependent variable. By comparing the results of the experimental group(s) with those of the control group, researchers can determine whether the independent variable had a significant impact on the dependent variable (Li, Cheng, Liu, 2013).

A key characteristic of experimental research is the utilization of random assignment. Random assignment involves randomly allocating participants to different study conditions involving a manipulated variable. When individuals are assigned to groups in this manner, the research design is referred to as a true experiment (Creswell & Creswell, 2022; Phakiti, 2015). The fundamental structure of a true experiment comprises the experimental subject, the independent variable, and the measured dependent variable. True experiments serve not only to establish the relationship “If X then Y” but also to demonstrate the converse: “If no X then no Y.” (Pickard, 2013, p. 121). Designs where researchers have limited control or are unable to randomly assign participants to levels of a manipulated variable of interest are termed quasi-experiments (Creswell & Creswell, 2022). Regarding random assignment in experimental research, Gass (2015, p. 91) states:

A hallmark of experimental research is the random assignment of participants to one group or another. Random assignment of individuals means that each individual has an equal chance of being assigned to any of the conditions of the study (experimental or control). That is, the process of assignment is random. Randomization is intended to eliminate the possibility that extraneous variables will creep into the research design.

For example, In Goo’s study (2012), which assessed the efficacy of recasts versus metalinguistic feedback on English that-trace filter acquisition, six intact classes were randomly allocated to one of three conditions: “recasts,” “metalinguistic feedback,” and “control” (p. 454).

Experimental Research

Figure 1. Major Experimental Designs<Fig_Large></Fig_Large>

RESEARCH DESIGN

When researchers select an experimental design, they must address several inquiries to enhance both the internal and external validity of the study. These considerations involve evaluating the nature of variables under examination, the number of independent variables under scrutiny, the decision to conduct pretests, determining the frequency of treatment sessions, and determining the size and characteristics of the sample to be chosen (Mackey & Gass, 2022). A research design encompasses a structured framework detailing the procedures, phases, and methodologies employed in various experimental research endeavours. It typically comprises four primary types: pre-experimental, single-case, randomised experimental, and quasi-experimental designs (Phakiti, 2015). Figure 1 illustrates the major types of experimental research design.

Pre-experimental Designs

Pre-experimental designs are considered to be the least rigorous type of experimental design. They lack comparison or control groups and do not allow for strong causal inferences. The most common types of pre-experimental designs are (Phakiti, 2015):

One-group post-test-only design: In the one-group post-test-only design, the absence of a pre-treatment measure of the dependent variable, such as grammatical and vocabulary knowledge, makes it challenging to attribute high post-test scores solely to the treatment. This is because there is no baseline to compare the post-test scores to, nor are there scores from a comparison group to assess the treatment's effectiveness.

The one-group pretest-post-test design: This design represents an advancement from the one-group post-test-only design. In this design, a single group of participants undergoes both pre-treatment and post-treatment assessments. This setup resembles action research, where a teacher-researcher endeavours to enhance student learning by introducing activities thought to address a specific issue.

Post-test-only with non-equivalent groups design: This design seeks to overcome the shortcomings of previous two designs by introducing comparison groups. This design involves two groups of participants: one group receives the experimental treatment, while the other does not. Unlike the previous designs, there is no assumption of equivalence between the groups. Following the treatment period, both groups undergo a post-test, and their scores are compared to assess the treatment's impact.

True Experimental Designs

True experimental designs are considered more rigorous than pre-experimental designs, as they involve random assignment of participants to different groups. This allows greater control over confounding variables and enables stronger causal inferences (Gass, 2015; Inna, Ihor, Olena, 2021; Phakiti, 2015). For example, in a study investigating the effectiveness of a new language teaching method, one group of

participants may receive the new method, while the control group receives the traditional method. The differences in post-test scores between the two groups can then be attributed to the effectiveness of the new method. The most commonly used true experimental designs are (Leppink, 2019). In a true experiment, researchers randomly assign participants to different treatment groups. According to Creswell and Creswell (2022) there are several types of true experimental design as categorised below.

A **single-subject design**, also known as N of 1, involves observing the behaviour of one individual or a small group over a period of time. In experiments, comparisons are essential. **Between-subject designs** involve each participant experiencing only one condition of a manipulated variable. **One-way designs** involve manipulating one independent variable, while **factorial designs** manipulate multiple independent variables to explore their effects. In contrast, **within-subject designs** involve participants experiencing multiple conditions of a manipulated variable. For example, a repeated measures design uses the same measurement before and after an intervention, with “time” being a within-subjects variable. Many studies combine between-subjects and within-subjects variables, termed mixed designs. For instance, in a study on working conditions and burnout symptoms among nurses, participants could be randomly assigned to work part-time or full-time (between-subjects variable) while their burnout symptoms are measured before and after the work change (within-subjects variable), resulting in a mixed design.

Quasi-experimental Designs

Quasi-experimental designs are used when random assignment is not possible or practical and it is hard to control unexpected variables, but researchers still want to compare the effects of different treatments or interventions (Reichardt, 2009; Rogers & Révész, 2023). Quasi-experimental designs are often used in educational settings where it is not practical or ethical to randomly assign participants to groups. Creswell and Creswell (2022) have classified quasi-experimental designs into as follows:

Non-equivalent (Pretest and Post-test) Between-Group Design: In this widely used quasi-experimental approach, both experimental Group A and control Group B are selected without random assignment. Both groups undergo pretest and post-test assessments, with only the experimental group receiving the treatment.

Single-Group Interrupted Time-Series Design: This design involves recording measures for a single group both before and after a treatment is administered.

Between-Group Interrupted Time-Series Design: A modification of the Single-Group Interrupted Time-Series design, this approach observes two groups of participants, not randomly assigned, over time. One group receives the treatment, while the other serves as a control. For instance, if there are two groups, A and B, the treatment is administered solely to one group (Group A). For example, researchers could measure students’ language proficiency at regular intervals before and after the implementation of a new teaching strategy (Rogers & Révész, 2023).

Reliability and Validity in Experimental Research

Reliability and validity can be the multifaceted concepts (Hung, 2017). Reliability pertains to the internal consistency of instrument scores, ensuring that item responses remain consistent across constructs. It also involves the stability of scores over time, as evidenced by the correlation between the tests, and the consistency in test administration and scoring procedures. In essence, reliability reflects the consistency with which an instrument measures a particular construct. Therefore, it assesses whether subsequent

Experimental Research

measurements would yield similar results. Reliability is a fundamental prerequisite for establishing instrument validity (Creswell & Creswell, 2022; Gass, 2015; Loewen & Plonsky, 2015). For example, when a researcher investigates L2 learners' reading performance, a reliable test would be using reading tests, or when the researcher examines the effectiveness of OCF on L2 sound production, a reliable test would be a test that measures learners' sound production such as word pronunciation or analysing their produced spoken utterances.

The validity, on the other hand, concerns the precision and accuracy of the measurements and observations conducted during data collection, as well as the integrity of the conclusions drawn from the collected data. In essence, it examines whether the research findings are resulting from reliable data and analysis methods. Validity is a fundamental concept in all research fields, though it is often emphasized more in quantitative research. It encompasses both the substantive and methodological robustness of a study (Gass, 2015; Loewen & Plonsky, 2015; Phakiti, 2015).

However, generating a single definition of validity that encompasses all aspects of research processes is impractical. Research methodologists outline various types of validity that quantitative researchers need to consider. These include internal and external validity, construct validity, and statistical validity (Phakiti, 2015).

First, internal validity, the primary form of research validity, focuses on establishing the logical connection between the independent and dependent variables being investigated. It evaluates the extent to which other potential variables may affect the research outcomes. On the other hand, external validity pertains to the extent to which findings from an experiment can be applied to other learners with similar characteristics and different settings. This aspect is crucial for securing research funding, as studies that are limited to specific learner groups, settings, or timeframes may have limited generalizability. Furthermore, the researcher(s) must critically examine the definitions of constructs during the literature review. Researchers must assess differing perspectives on the same construct and propose clear definitions and operationalizations for their research. It gauges the extent to which a construct is accurately defined, measured, and inferred (Cash, Stanković, & Štorga, 2016; Gass, 2015; Phakiti, 2015).

Another type of validity is content validity, a component of construct validity that assesses how well a measurement represents the construct of interest. It evaluates whether the behaviours or abilities sampled are a good match for what they are supposed to measure. For example, in assessing learners' ability to find the main ideas in a given academic passage, the selection of texts, questions, and tasks determines the content validity of the assessment (Creswell & Creswell, 2022; Loewen & Plonsky, 2015).

Then, there is criterion-related validity, closely linked to construct validity, which examines the relationship between an instrument and other measures of the same or similar constructs. Finally, statistical validity comes into play. It ensures the reliability of inferences drawn from experimental studies through sound statistical analyses. It is essential for comparing the performance of groups subjected to different treatments and arriving at valid conclusions (Cash et al., 2016; Creswell & Creswell, 2022).

Identifying Common Threats and Mitigation Strategies in Experimental Research

There are several threats to internal validity in experimental research that researchers must be aware of and mitigate. Creswell and Creswell (2022) recognised several common threats to internal validity as summarized in Table 1.

Table 1. Types of Threats to Internal Validity

Type of Threat to Internal Validity	Description of Threat	In Response, Actions the Researcher Can Take
History	External events occurring during the experiment can influence outcomes apart from the treatment.	Both experimental and control groups can experience the same external events.
Maturation	Participants may mature or change during the experiment, impacting the results.	Select participants who mature or change at a similar rate (e.g., same age) during the experiment.
Regression to the mean	Participants with extreme scores tend to move towards the average over time.	Select participants with non-extreme scores for the experiment.
Selection	Participants with certain characteristics may predispose them to specific outcomes.	Randomly select participants to distribute characteristics equally among experimental groups.
Mortality (study attrition)	Participants dropping out during the experiment may affect outcomes.	Recruit a large sample to account for dropouts or compare dropouts with continuers in terms of outcomes.
Diffusion of treatment	Communication between control and experimental groups may influence outcomes.	Keep the groups as separate as possible during the experiment.
Compensatory/resentful demoralization	Unequal treatment may lead to resentment in the control group.	Provide benefits to both groups, such as offering the control group the treatment after the experiment ends or providing a different type of treatment during the experiment.
Compensatory rivalry	Control group participants may feel devalued compared to the experimental group.	Take steps to ensure equality between groups, such as managing expectations or explaining the value of the control group clearly.
Testing	Participants may become familiar with the outcome measure, affecting responses on later testing.	Increase the time interval between administrations of the outcome or use different items on later tests than those used in earlier tests.
Instrumentation	Changes in the instrument between pretest and post-test may affect outcome scores.	Use the same instrument for both pretest and post-test measures.

ETHICAL CONSIDERATIONS

When conducting experimental research involving human participants, ethical considerations are essential principles. The researcher’s foremost responsibility is to honour the rights, needs, values, and preferences of the participants. Ethical research conduct entails adherence to essential principles, including participant consent (i.e., informed consent), anonymity, and confidentiality (Phakiti, 2015). Researchers must adhere to ethical protocols to ensure the protection of their research participants. Participants should provide voluntary consent to participate in the study (Pickard, 2013), fully informed of its nature and procedures (Kaiser, 2014). They should not be coerced into participation. Additionally, researchers must carefully evaluate and mitigate any potential risks, such as physical or psychological harm, that participants may encounter during the study. Furthermore, honesty in reporting is paramount, particularly concerning participant exclusion. If participants are excluded from the study, it must be justified and

Experimental Research

carried out judiciously while maintaining transparency and integrity in the research process (Abbuhl et al., 2014; Gass, 2015; Phakiti, 2015).

Ethical concerns extend beyond research participants to encompass the professional integrity of researchers. The public must view research professionals as trustworthy, and researchers must conduct themselves in a manner that upholds their credibility. Researchers bear responsibility for the societal implications of their work. Thus, ethical considerations in experimental research underscore the interconnectedness between research and society. A groundbreaking experimental study, regardless of its design, will not garner acceptance from society if conducted without ethical adherence (Abbuhl et al., 2014; Phakiti, 2015).

When engaging in experimental research, researchers must uphold specific ethical principles and guidelines to safeguard the rights and welfare of participants. Some of these principles and guidelines are outlined by (Bryman, Bell, Reck, 2021; Drager, 2018; Kirk, 2009, 2012; McDonough, 2019; Polio & Lee, 2019; Rogers & Révész, 2023).

Informed Consent

Central to ethical research practice is the requirement to obtain voluntary informed consent from participants. This entails providing participants with a clear understanding of the study's purpose, potential risks and benefits, and their rights as participants. Participants need to have the autonomy to make an informed decision about their participation, and researchers have to ensure that consent is obtained in a transparent and comprehensible manner.

Privacy and Confidentiality

It is important to safeguard the privacy of participants and maintain the confidentiality of any personal or sensitive information obtained during the study. To uphold confidentiality, it is crucial to adopt measures to anonymize data and protect participants' identities. By ensuring the confidentiality of participants, researchers uphold the trust and integrity of the research process.

Minimization of Harm

It is important to prioritize the well-being of participants and take precautions to prevent harm during the experimental research. This involves anticipating and addressing potential risks to participants' physical and psychological well-being, establishing protocols for addressing any adverse effects that may arise, and providing participants with support mechanisms as needed to mitigate harm.

DATA COLLECTION

In experimental research, data are collected over various periods. For instance, before commencing the experiment, researchers gather data through pre-tests. Following this, interventions are applied, and data may be collected midway through or at the end of the intervention, typically in the form of post-tests. The pre-test-post-test control-group design is commonly employed in language learning research. In numerous L2 studies, participants typically undergo a pretest to establish the comparability of partici-

pant groups before treatment, followed by a post-test to gauge treatment effects. While a pretest/post-test design enables researchers to assess the immediate impact of treatment, the fundamental inquiry in an L2 learning study lies in determining the extent to which treatment genuinely facilitates learning. To evaluate longer-term effects, researchers often incorporate delayed post-tests alongside immediate post-tests, which occur shortly after treatment (Mackey & Gass, 2022). Rogers and Révész (2023, p. 135) stated that “The pre-test–post-test control group design is probably the most common experimental research design.”

In experimental research, participants are initially assigned randomly to one of three conditions, including a control condition. Initially, they undergo pretesting on the dependent variable. Subsequently, the experimental groups receive the designated treatments, while the control group may undergo typical classroom practices. Following the treatment period, both groups undergo testing on the dependent variable (Phakiti, 2015). For example, Saito and Lyster (2012) investigated the effectiveness of form-focused instruction and CF on Japanese L2 learners in the production of English /r/. They randomly assigned 65 learners to three groups: the FFI-only group, the FFI + CF group, and the control group. Each group underwent 4 hours of meaning-based instruction on argumentative skills, delivered by two ESL teachers. Additionally, the FFI-only and FFI + CF groups received instruction on the English /r/ sound. After data collection, they analysed the data acoustically. The results revealed that (a) The F3 values of the FFI + CF group significantly decreased following the intervention, not only in controlled speech but also in spontaneous speech, irrespective of the following vowel contexts. (b) There was no statistically significant change in the F3 values for the FFI-only group and the control group.

There are other types of design in experimental research. For example, time-series design exemplifies a longitudinal approach wherein researchers gather language samples at regular intervals over a defined duration (Kirk, 2009; Mackey & Gass, 2022; Rogers & Révész, 2023). Through multiple data collection points, time-series designs offer insights into the temporal dynamics of language development, encompassing immediate, gradual, delayed, incubated, or residual changes (Mackey & Gass, 2022; Mellow, 2012; Rogers & Révész, 2023), as well as the durability of treatment effects. Furthermore, there are repeated-measures designs, also termed within-participants designs, that involve a single group of participants engaging in various treatment conditions and/or being assessed at multiple time points (Abbuhl & Mackey, 2017). Finally, some researchers may use another type of design: factorial designs. This design includes more than one independent variable. This design enables researchers to explore the effects of multiple independent variables on the dependent variable. These designs enable researchers to evaluate the individual impacts of each independent variable and their combined effects on the dependent variable (Mackey & Gass, 2022; Rogers & Révész, 2023).

Data Organization and Coding

Once the researcher(s) collected the quantitative data to address the research objectives and inquiries, it is important to ensure the completeness of all participants' data. For instance, some participants may have left certain questionnaire items or test items unanswered. This results in incomplete data, commonly referred to as missing data. In this situation, the researcher(s) must determine the appropriate approach for dealing with such missing data. Then, the data will be entered into a computer software program (e.g., SPSS, Microsoft Excel, or Jamovi). Once the data are coded and assigned numerical values for each participant, they can be entered into a statistical software application for analysis (Phakiti, 2015). Finally, the next step is to select an appropriate statistical test for the analysis purposes.

Data Analysis and Interpretation

This section delves into the procedures undertaken when dealing with quantitative data. Initially, it outlines the various phases encompassed in statistical analysis, emphasizing the significance of understanding this process in experimental research before going into fundamental statistical principles. After elucidating the stages of statistical analysis, the section introduces descriptive statistics as a means to portray the attributes of quantitative data and delves into essential notions in inferential statistics, such as hypothesis testing, probability, significance values, and sample sizes. Additionally, it offers a synopsis of prevalent statistical tests applied in language learning and experimental investigations.

After the researcher(s) collected the data, the initial step in interpreting results involves conducting statistical analyses. However, a comprehensive discussion regarding various types of statistics and designs is not within the scope of this chapter. In experimental research, quantitative social science data undergoes specialized statistical analysis, often facilitated by special software such as the Statistical Package for the Social Sciences (SPSS) and Jamovi (Cash et al., 2016).

In experimental research, there are two main categories of statistical analyses: descriptive statistics and inferential statistics, each serving distinct purposes. Descriptive statistics focus on summarizing data collected for a specific variable, typically by calculating measures of central tendency (such as mode, median, and mean) and variability (such as range and standard deviation) (Johnson & Christensen, 2019; Phakiti, 2015). These statistics provide insights into the characteristics of the data. In contrast, inferential statistics allow researchers to explore relationships between variables, test hypotheses, and draw generalizations beyond the immediate research context. They enable the examination of differences or associations among two or more variables (Field, 2017).

Descriptive Statistics

Descriptive statistics provide a summary of the data collected in the experiment (Ross & Morrison, 2013). This includes measures such as means, standard deviations, and frequency distributions, which help researchers understand the central tendency and variability of the data. For example, in a study comparing the effectiveness of two teaching methods, descriptive statistics can provide information on the average performance of students in each condition and the variability in their scores. Descriptive statistics serve as metrics for quantitative data, encompassing indicators of central tendency, variability, and relative position. Central tendency can be defined through various measures, one of which is the mean, calculated as the sum of scores divided by the number of scores.

In applied linguistics research, including both experimental and qualitative studies, the *mean* is extensively utilized as a descriptive statistic, representing the average of the data or scores. Another measure of central tendency is the *median*, which is the value that divides a dataset into two halves, with half the scores falling below and half above it. To determine the median, the data must be arranged in ascending order.

Additionally, central tendency can be assessed through the *mode*, which identifies the value that appears most frequently in the dataset. When considering the distribution of data, the normal distribution is characterized by being unimodal (having one mode), symmetric around the mean, and bell-shaped. However, achieving a perfectly normal distribution is rare in research. An assumption often made in inferential statistics is that the data follows a normal distribution, particularly in larger sample sizes (e.g., 30 or more), where the mean, median, and mode converge or closely approximate each other.

Furthermore, measures of *dispersion*, also known as measures of variability, describe the spread of data. Dispersion can be categorized as *homogeneous*, indicating little variation in numerical values, or *heterogeneous*, suggesting variability among values. Common measures of dispersion include the range, which is the difference between the highest and lowest scores in the dataset. A smaller range indicates a more homogeneous dataset.

The *variance* and *standard deviation* are more precise measures of dispersion. The variance quantifies the average squared deviation from the mean, while the standard deviation, obtained by taking the square root of the variance, represents how much individual values deviate from the mean on average. A smaller standard deviation indicates a more homogeneous dataset. Both the variance and standard deviation are integral to various inferential statistics, such as ANOVA and ANCOVA. However, it is important to note that extreme values, or outliers, can influence measures like the mean and standard deviation.

Inferential Statistics

This section concentrates on fundamental concepts within inferential statistics, including hypothesis testing, probability, significance values, and sample sizes. It aims to offer a comprehensive review of the typical statistical tests employed in language learning and experimental research. Inferential statistics are employed to enhance comprehension of the association between two or more variables, such as linear or causal-like relationships.

To measure a potential relationship between two variables, we follow a three-step process. Initially, we assume that no relationship exists between the variables as our starting point. Second, we assess whether this assumption holds true by gathering data or evidence. If the data refute the idea of no relationship, we can infer that a relationship does exist. Third, we determine the nature of this relationship, whether it is positive or negative, such as a positive or negative linear connection or a causal-like relationship (Phakiti, 2015).

Hypothesis testing is a statistical method utilized to evaluate how well quantitative data support a hypothesis, known as the null hypothesis, which researchers typically consider false. The null hypothesis (H_0) posits that there is no relationship between the variables or no distinction among learner groups. This method directly scrutinizes the null hypothesis, and if the data fails to support it, researchers accept an alternative hypothesis (H_A or H_1), which asserts the presence of a relationship between the variables or differences among learner groups (Field, 2017; Gray & Kinnear, 2011). Two types of alternative hypotheses exist, first, a non-directional alternative hypothesis, which posits a relationship or difference between the variables without specifying the direction, and second, a directional alternative hypothesis, which specifies the direction of the relationship or difference, such as asserting a positive relationship between the variables or stating that Group A statistically outperforms Group B (Phakiti, 2015).

To reject the null hypothesis, researchers establish a probability threshold, known as the p -value. This value is specifically designated for testing the null hypothesis rather than the alternative hypothesis. Essentially, the null hypothesis can be rejected when the probability of obtaining the observed result under the assumption of a true null hypothesis is extremely low. In language learning research, for instance, it is common to set the p -value to be less than 0.05 ($p < 0.05$), although some researchers may opt for a threshold of less than or equal to 0.05 ($p \leq 0.05$). It is crucial to understand that if the established probability value is less than 0.05 and the test statistic yields a p -value of exactly 0.05, the null hypothesis should still be rejected. This threshold of 0.05 indicates a 5 percent probability that the null hypothesis under scrutiny is accurate, allowing for a 5 percent margin of error in rejecting it. In

Experimental Research

experimental research, a p -value of 0.05 is commonly recommended, although researchers often opt for stricter thresholds, such as 0.01. For instance, a p -value of less than 0.01 ($p < 0.01$) indicates a probability of less than 1 percent that the null hypothesis is correct, while a p -value of 0.001 signifies a one in a thousand chance that the null hypothesis holds true (Gray & Kinnear, 2011; Johnson & Christensen, 2019; Loewen & Plonsky, 2015; Robinson, 2012).

Researchers new to statistics often grapple with distinguishing between the set probability value and statistical significance. To clarify this disparity, it is essential to understand that the significance value, also known as the alpha value, remains constant (e.g., it must be less than or equal to 0.05 or 0.01), whereas the probability value is determined by the test statistics and is data dependent. For instance, if we establish a p -value threshold of less than 0.05 to denote significance, and the data yields a p -value of 0.06, this data-driven p -value isn't statistically significant at the 0.05 level because 0.06 exceeds 0.05. Conversely, if we set a probability value of 0.10, a p -value of 0.06 would be considered statistically significant at the 0.10 level since 0.06 falls below 0.10. It is crucial to recognize that the significance level simply indicates a high probability of correctly rejecting the null hypothesis. Moreover, it is important to note that in statistics, the term "significance" does not equate to importance in everyday language. Instead, it signifies that researchers have strong grounds to reject the null hypothesis (Ary, Jacobs, & Sorensen, 2006; Field, 2017; Gray & Kinnear, 2011; Phakiti, 2015).

Correlation is a statistical method utilized to explore associations between two variables without implying a cause-and-effect relationship. Through correlation analysis, researchers investigate whether one variable consistently changes in tandem with another, rather than one variable directly influencing the other (Field, 2017; Gray & Kinnear, 2011).

Regression analysis is used to examine the relationship between a dependent variable and one or more independent variables (Rogers & Révész, 2023). It helps to determine the strength and direction of the relationship and can be used to predict future values of the dependent variable based on the independent variable.

T-test in SPSS: The T-test in SPSS is a statistical analysis tool that is used to determine whether there are significant differences between the means of two groups. Compare the means of two groups on a single variable to determine if there is a statistically significant difference (Neumark, 2018).

Analysis of variance (ANOVA): ANOVA is a statistical technique used to compare means between two or more groups. It helps determine if there are significant differences among the group means and identifies which groups differ from each other (Field, 2017; Gray & Kinnear, 2011).

Importance of Statistical Significance and Effect Size

Statistical significance and effect size are two important aspects of data analysis in experimental research. *Statistical significance* refers to the probability that the observed results are due to the independent variable and not to the chance (Li et al., 2013). It helps determine whether the results are meaningful and not just a result of random variation. Researchers typically set a significance level (e.g., $p < 0.05$) to determine statistical significance. If the p -value is lower than the significance level, the results are considered statistically significant.

For example, imagine a study investigating the effectiveness of a new language teaching method compared to a traditional method. The researchers collect data on the language proficiency of the students before and after treatment. By analysing the data, they found that the students who received the new teaching method improved significantly in their language skills compared to those who received the

traditional method. However, to determine the statistical significance of this finding, researchers would need to compute a p -value using a statistical test, such as a t -test or an analysis of variance (ANOVA).

The p -value represents the likelihood of obtaining the observed results if there is no real difference between the two teaching methods (Inna et al., 2021). If the p -value is below a predetermined threshold (usually 0.05 or 0.01), the researchers can conclude that the difference in language skills is statistically significant. This means that the observed results are unlikely to be due to chance and provide evidence to support the claim that the new teaching method is more effective.

The effect size, in addition, measures the magnitude or strength of the relationship between variables (Escueta et al., 2020; Phakiti, 2015). It helps researchers understand the practical significance of the results and the size of the effect. While statistical significance focuses on the presence or absence of an effect, effect size focuses on the magnitude of the effect. Effect size is particularly important when interpreting statistically significant results. Even if a finding is statistically significant, it may have little practical relevance if the effect size is small. Conversely, a statistically nonsignificant finding may still have practical significance if the effect size is large.

Both statistical significance and effect size are important in the interpretation of experimental findings. Statistical significance helps determine whether the observed effects are statistically reliable, while effect size helps determine the practical significance of the effects. It is possible to have statistically significant results with small effect sizes, which may have little practical significance. Therefore, it is important to consider both statistical significance and effect size when interpreting experimental findings.

Guidelines for Interpreting and Reporting the Findings

When interpreting and reporting experimental findings, researchers should follow some guidelines to ensure clear and accurate communication of the results. These guidelines include (Bänziger, Mortillaro, & Scherer, 2012):

First, Considering the research questions and hypotheses. The interpretation of the experimental findings should be guided by the research questions and hypotheses. Researchers should examine the data about these research questions and hypotheses and determine if the results support or refute them.

Second, use appropriate statistical techniques. Depending on the nature of the data and research questions, different statistical techniques may be used for data analysis (Bänziger et al., 2012). For example, if the data are continuous and normally distributed, parametric tests such as t -tests or analysis of variance (ANOVA) may be used.

Third, look for patterns and trends. Researchers should examine the data to find patterns and trends that can help explain the results. This may involve visualizing the data using graphs or charts and descriptively analysing the data.

Fourth, consider effect sizes. In addition to statistical significance, researchers should also consider effect sizes. The effect sizes provide information on the magnitude of the observed effects and can help determine the practical significance of the findings.

Fifth, provide descriptive statistics. When reporting the findings, it is important to include descriptive statistics that summarize the data. This can include measures such as means, standard deviations, medians, and interquartile ranges. Descriptive statistics provide a snapshot of the data and help the reader understand the central tendency and variability of the results.

Experimental Research

Sixth, interpret and discuss the findings concerning previous research. Researchers should interpret and discuss the findings with previous research in the field. This involves comparing the results with existing literature and discussing similarities or differences.

Seventh, consider limitations and potential confounders. Researchers should also discuss the limitations of the study, including potential confounders that may have impacted the results. This can help readers understand the scope and generalizability of the findings.

Finally, conclude and make recommendations. Finally, based on the interpretation of the findings, researchers should conclude and make recommendations for future research or practice. This can involve discussing the implications of the findings and suggesting areas where further investigation is needed.

By following these guidelines, researchers can ensure that their experimental findings are accurately interpreted and effectively communicated to the scientific community.

CONCLUSION

In conclusion, this chapter has outlined the steps necessary to conduct experimental research, specifically in the field of applied linguistics. It begins with a general introduction to experimental research. Then, it delves into the principles and key concepts essential for understanding and conducting any experimental research. This chapter serves as a valuable resource for those who write and conduct experimental research by providing comprehensive information and guidelines. Moreover, it offers an additional reading list for individuals eager to contemplate deeper into specific aspects of experimental research. With its thorough coverage and supplementary resources, this chapter equips researchers with the knowledge and tools needed to undertake meaningful and rigorous experimental studies in applied linguistics and other fields as well.

REFERENCES

- Abbuhl, R., Gass, S., & Mackey, A. (2014). Experimental research design. In R. J. Podesva & D. Sharma (Eds.), *Research Methods in Linguistics* (pp. 116–134). Cambridge University Press., doi:10.1017/CBO9781139013734.008
- Abbuhl, R., & Mackey, A. (2017). Second language acquisition research methods. In K. A. King, Y.-J. Lai, & S. May (Eds.), *Research methods in language and education* (pp. 183–193). Springer International Publishing., doi:10.1007/978-3-319-02249-9_13
- Ary, D., Jacobs, L. C., & Sorensen, C. (2006). *Introduction to research in education* (8th ed.). Thomson Wadsworth.
- Association, A. P. (2019). *Publication manual (OFFICIAL) 7th edition of the American psychological association*. APA. <https://apastyle.apa.org/products/publication-manual-7th-edition-spiral>
- Bänziger, T., Mortillaro, M., & Scherer, K. R. (2012). Introducing the Geneva Multimodal expression corpus for experimental research on emotion perception. *Emotion (Washington, D.C.)*, *12*(5), 1161–1179. doi:10.1037/a0025827 PMID:22081890

- Bartoszynski, R., & Niewiadomska-Bugaj, M. (2007). *Probability and statistical inference*. John Wiley & Sons.
- Bryfonski, L., & Ma, X. (2020). Effects of implicit versus explicit corrective feedback on Mandarin tone acquisition in a SCMC learning environment. *Studies in Second Language Acquisition*, 42(1), 61–88. doi:10.1017/S0272263119000317
- Bryman, A., Bell, E., Reck, J., & Fields, J. (2021). *Social research methods*. Oxford University Press.
- Cash, P., Stanković, T., & Štorga, M. (2016). An introduction to experimental design research. In P. Cash, T. Stanković, & M. Štorga (Eds.), *Experimental design research: Approaches, perspectives, applications* (pp. 3–12). Springer Cham., doi:10.1007/978-3-319-33781-4_1
- Chen, M., & Li, W. (2022). The influence of form-focused instruction on the L2 Chinese oral production of Korean native speakers. *Frontiers in Psychology*, 13, 790424. Advance online publication. doi:10.3389/fpsyg.2022.790424 PMID:35478761
- Cook, T. D., & Shadish, W. R. (1994). Social experiments: Some developments over the past fifteen years. *Annual Review of Psychology*, 45(1), 545–580. doi:10.1146/annurev.ps.45.020194.002553
- Cook, T. D., & Wong, V. C. (2008). Better quasi-experimental practice. In P. Alasuutari, L. Bickman, & J. Brannen (Eds.), *The SAGE handbook of social research methods* (pp. 134–165). SAGE Publications Ltd., doi:10.4135/9781446212165.n10
- Creswell, J. W., & Creswell, J. D. (2022). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE Publications, Inc.
- Dechenaux, E., Kovenock, D., & Sheremeta, R. M. (2015). A survey of experimental research on contests, all-pay auctions and tournaments. *Experimental Economics*, 18(4), 609–669. doi:10.1007/s10683-014-9421-0
- Drager, K. (2018). *Experimental research methods in sociolinguistics*. Bloomsbury Academic.
- Escueta, M., Nickow, A. J., Oreopoulos, P., & Quan, V. (2020). Upgrading education with technology: Insights from experimental research. *Journal of Economic Literature*, 58(4), 897–996. doi:10.1257/jel.20191507
- Fang, W.-C., Yeh, H.-C., Luo, B.-R., & Chen, N.-S. (2021). Effects of mobile-supported task-based language teaching on EFL students' linguistic achievement and conversational interaction. *ReCALL*, 33(1), 71–87. doi:10.1017/S0958344020000208
- Field, A. (2017). *Discovering statistics using IBM SPSS statistics*. SAGE Publication.
- Gass, S. (2015). Experimental research. In B. Paltridge & A. Phakiti (Eds.), *Research methods in applied linguistics _ A practical resource* (pp. 88–99). Bloomsbury Academic.
- Gonzalez-Marquez, M., Mittelberg, I., Coulson, S., & Spivey, M. J. (2003). An introduction to experimental methods for language researchers. In M. Gonzalez-Marquez, I. Mittelberg, S. Coulson, & M. J. Spivey (Eds.), *Methods in cognitive linguistics* (pp. 53–86). John Benjamins Publishing Company.

Experimental Research

- Goo, J. (2012). Corrective feedback and working memory capacity in interaction-driven L2 learning. *Studies in Second Language Acquisition*, 34(3), 445–474. doi:10.1017/S0272263112000149
- Gray, C. D., & Kinnear, P. R. (2011). *IBM SPSS statistics 19 made simple*. Psychology Press.
- Higgins, R., Murphy, F., & Hogg, P. (2021). The impact of teaching experimental research on-line: Research-informed teaching and COVID-19. *Radiography*, 27(2), 539–545. doi:10.1016/j.radi.2020.11.014 PMID:33262051
- Inna, H., Ihor, K., Olena, S., Oleksiy, T., & Natalia, T. (2021). Experimental research of oscillation parameters of vibrating-rotor crusher. *Przegląd Elektrotechniczny*, 3(3), 97–100. doi:10.15199/48.2021.03.19
- Johnson, R. B., & Christensen, L. B. (2019). *Educational research: Quantitative, qualitative, and mixed approaches*. SAGE Publications, Inc.
- Kaiser, E. (2014). Experimental paradigms in psycholinguistics. In R. J. Podesva & D. Sharma (Eds.), *Research methods in linguistics* (pp. 135–168). Cambridge University Press. doi:10.1017/CBO9781139013734.009
- Kirk, R. E. (2009). Experimental design. In R. E. Millsap & A. Maydeu-Olivares (Eds.), *The SAGE handbook of quantitative methods in psychology* (pp. 23–45). SAGE Publications Ltd., doi:10.4135/9780857020994.n2
- Kirk, R. E. (2012). *Experimental design-procedures for the behavioral Sciences*. Sage Publication, Inc.
- Ledyard, J. O. (1995). Public goods: A survey of experimental research. In J. H. Kagel & A. E. Roth (Eds.), *The handbook of experimental economics* (pp. 94–111). Princeton University Press.
- Leppink, J. (2019). *Statistical methods for experimental research in education and psychology*. Springer Cham. doi:10.1007/978-3-030-21241-4
- Li, S. (2018). Corrective feedback in L2 speech production. In The TESOL encyclopedia of English language teaching (pp. 1-9). doi:10.1002/9781118784235.eelt0247
- Li, X., Cheng, G., Liu, S., Xiao, Q., Ma, M., Jin, R., Che, T., Liu, Q., Wang, W., Qi, Y., Wen, J., Li, H., Zhu, G., Guo, J., Ran, Y., Wang, S., Zhu, Z., Zhou, J., Hu, X., & Xu, Z. (2013). Heihe watershed allied telemetry experimental research (HiWATER): Scientific objectives and experimental design. *Bulletin of the American Meteorological Society*, 94(8), 1145–1160. doi:10.1175/BAMS-D-12-00154.1
- Loewen, S., & Plonsky, L. (2015). *An A–Z of applied linguistics research methods*. Bloomsbury Publishing.
- Lyster, R., Saito, K., & Sato, M. (2013). Oral corrective feedback in second language classrooms. *Language Teaching*, 46(1), 1–40. doi:10.1017/S0261444812000365
- Mackey, A., & Gass, S. M. (2022). *Second language research: Methodology and design* (3rd ed.). Routledge.
- Mahmood, R. Q. (2023). Enhancing EFL speaking and pronunciation skills: Using explicit formal instruction in a Kurdish university. *Issues in Educational Research*, 33(4), 1421–1440. <http://www.iier.org.au/iier33/mahmood-abs.html>

- Mattila, A. S., Luo, A., Xue, X., & Ye, T. (2021). How to avoid common mistakes in experimental research? *International Journal of Contemporary Hospitality Management*, 33(1), 367–374. doi:10.1108/IJCHM-07-2020-0696
- McDonough, K. (2019). Experimental research methods. In S. Loewen & M. Sato (Eds.), *The Routledge handbook of instructed second language acquisition* (pp. 562–576). Routledge.
- Mellow, J. D. (2012). Time series. In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics* (pp. 1–5). Wiley-Blackwell., doi:10.1002/9781405198431.wbeal1216
- Mills, G. E., & Gay, L. R. (2018). *Educational research: Competencies for analysis and applications*. Pearson.
- Neumark, D. (2018). Experimental research on labor market discrimination. *Journal of Economic Literature*, 56(3), 799–866. doi:10.1257/jel.20161309
- Nieuwburg, E. G. I., Ploeger, A., & Kret, M. E. (2021). Emotion recognition in nonhuman primates: How experimental research can contribute to a better understanding of underlying mechanisms. *Neuroscience and Biobehavioral Reviews*, 123, 24–47. doi:10.1016/j.neubiorev.2020.11.029 PMID:33453306
- Nunan, D. (1992). *Research methods in language learning*. Cambridge University Press.
- Phakiti, A. (2015). *Experimental Research Methods in Language Learning*. Bloomsbury Academic.
- Pickard, A. J. (2013). *Research methods in information*. Facet., doi:10.29085/9781783300235
- Polio, C., & Lee, J. (2019). Experimental studies in L2 classrooms. In J. W. Schwieter & A. Benati (Eds.), *The Cambridge handbook of language learning* (pp. 137–165)., <https://doi.org/DOI>, doi:10.1017/9781108333603.007
- Reichardt, C. S. (2009). Quasi-experimental design. In R. E. Millsap & A. Maydeu-Olivares (Eds.), *The SAGE handbook of quantitative methods in psychology* (pp. 46–71). SAGE Publications Ltd., doi:10.4135/9780857020994.n3
- Robinson, M. A. (2012). How design engineers spend their time: Job content and task satisfaction. *Design Studies*, 33(4), 391–425. doi:10.1016/j.destud.2012.03.002
- Rogers, J., & Révész, A. (2023). Experimental and quasi-experimental designs. In J. McKinley & H. Rose (Eds.), *The Routledge handbook of research methods in applied linguistics* (pp. 133–143). Routledge.
- Ross, S. M., & Morrison, G. R. (2013). Experimental Research Methods. In D. Jonassen & M. Driscoll (Eds.), *Handbook of research on educational communications and technology* (pp. 1007–1029). Routledge., doi:10.4324/9781410609519
- Saito, K. (2021). Effects of corrective feedback on second language pronunciation development. In H. Nassaji & E. Kartchava (Eds.), *The Cambridge handbook of corrective feedback in second language learning and teaching* (pp. 407–428). Cambridge University Press. doi:10.1017/9781108589789.020
- Saito, K., & Lyster, R. (2012). Effects of form-focused instruction and corrective feedback on L2 pronunciation development of /ɪ/ by Japanese learners of English. *Language Learning*, 62(2), 595–633. doi:10.1111/j.1467-9922.2011.00639.x

Experimental Research

Sheskin, D. J. (2011). *Handbook of parametric and nonparametric statistical procedures*. CRC Press/Taylor & Francis Group.

Toledo, A. H., Flikkema, R., & Toledo-Pereyra, L. H. (2011). Developing the research hypothesis. *Journal of Investigative Surgery, 24*(5), 191–194. doi:10.3109/08941939.2011.609449 PMID:21867386

Toledo-Pereyra, L. H. (2011). Developing the research idea. *Journal of Investigative Surgery, 24*(3), 101–102. doi:10.3109/08941939.2011.572797 PMID:21524174

Yang, Y., & Lyster, R. (2010). Effects of form-focused practice and feedback on Chinese EFL learners' acquisition of regular and irregular past tense forms. *Studies in Second Language Acquisition, 32*(2), 235–263. doi:10.1017/S0272263109990519

ADDITIONAL READING

Allen, M. (2017). *The SAGE encyclopedia of communication research methods*. SAGE Publications, Inc. doi:10.4135/9781483381411

Bryman, A., Bell, E., Reck, J., & Fields, J. (2021). *Social research methods*. Oxford University Press.

Howitt, D., & Cramer, D. (2020). *Research methods in psychology*. Pearson.

Rose, H., McKinley, J., & Baffoe-Djan, J. B. (2019). *Data collection research methods in applied linguistics*. Bloomsbury Academic. doi:10.5040/9781350025875

Wicaksono, R., Hall, C. J., & Smith, P. H. (2011). *Mapping applied linguistics: Transforming data for competitive advantage*. Routledge.

KEY TERMS AND DEFINITIONS

Informed Consent: It is one of the main principles of ethical consideration, and through informed consent, the participants must be informed and provided with adequate information about a research study before voluntarily agreeing to participate.

Participants Confidentiality: When the data were collected from the participants, the researcher(s) must ensure the privacy and anonymity of research participants by keeping their identity and personal information.

Participants: When the participants are human beings, they are those whom the data will be collected from, then, the data will be analysed and interpreted to answer the research questions.

Research Design: When researchers plan to use some certain research strategy to address the research questions and the hypotheses is called research design.

Research Instrument: When the researcher(s) use some methods or tools to collect data in a research study, such as surveys, questionnaires, interviews, tests, observation protocols, or physiological measures.

Variables: It is the object(s) of the study that can be measured to test hypotheses or answer research questions.

Chapter 14

Revisiting Applied Linguistics and Language Education in the Digital Era: Scope and Future Directions

Viet Quoc Hoang

 <https://orcid.org/0000-0002-5332-2316>

University of Economics Ho Chi Minh City (UEH), Vietnam

Khang Nguyen Van

Phenikaa University, Vietnam

ABSTRACT

In response to linguistic development, applied linguistics has become a specialized field capturing linguists' attention. It addresses real-world language problems, especially in education. With its applied concept, it has broadened its mission, targets, and scope, positioning itself as an interdisciplinary field between linguistics and education, exploring critical issues in language use. Simultaneously, technological advances have significantly influenced the landscape of applied linguistics. An extensive survey of the current literature in the field shows some topics of interest, such as technology-enhanced language learning, computational linguistics, and technology-assisted language assessment, having expanded the paradigms of applied linguistics. This chapter situates applied linguistics as influenced by linguistics, education, psychology, and sociology, presenting the recent expansion of the scope of applied linguistics, and discussing its future direction.

INTRODUCTION

Applied linguistics is widely considered a continuation or expansion of linguistics, presenting an interdisciplinary field of language and education (Hall et al., 2017), bridging the gap between linguistics and language use (Trotzke & Kupisch, 2020). Applied linguists attempt to give solutions to language problems

DOI: 10.4018/979-8-3693-2603-9.ch014

in the real world. With such a broad initial scope and longstanding applications, applied linguistics indicates diverse topics of interest, suggesting its ongoing development in the future (Phakiti et al., 2018).

In the realm of language education and language analysis, the advent and advancement of technology have contributed to the field's development (Li & Dewaele, 2020). It is evident that technology has harnessed language learning, teaching, and analysis (Xie & Correia, 2023). With digital platforms facilitating interaction and collaboration and sophisticated tools aiding language analysis, technology has opened new horizons in language education (Lee et al., 2022), challenging traditional methods and offering novel approaches to research on language use and acquisition.

THE PRIMARY INTERESTS IN LINGUISTICS

Linguistics is a fundamental study specializing in the study of language. It emerged very early as an independent science in many places worldwide. With such a long history, linguistics has undergone various stages, and research interests have been increasingly supplemented, expanding the scope of linguistics within and across disciplines. As Isac and Reiss (2013) noted, linguistics is widely considered one of the most fiercely debated subjects in academia. It is deeply infused with the intellectual contributions and conflicts of poets, theologians, philosophers, philologists, psychologists, biologists, anthropologists, and neurologists, as well as the significant input from grammarians.

The history of linguistics can indicate its development over time. Before the twentieth century, linguistics evolved as a theoretical area exploring language and is interconnected with literature (Fitch, 2017). The traditional interests of theoretical or general linguistics are mainly phonetics (speech sounds) and phonology (sound system of a specific language), morphology (word structure), semantics (meaning), and pragmatics (meaning in context). Linguistics then further developed with subfields like cognitive linguistics, grounded on the relationship between the human mind and language (Bui, 2022), and functional grammar, basically examining language patterns (Le & Bui, 2021). At this stage, the initially proposed areas of linguistics were challenged as they were no longer considered distinct fields. For example, functional grammar describes language as a system of meanings, accompanied by forms (Halliday & Matthiessen, 2014).

Regarding Plato's question "*Why do words have meaning?*" The debate became extensive with at least three directions: The name of an object is determined by its nature; hence, words have meaning; the naming of an object is a matter of convention, an agreement among users; and analysis of the components that make up a word is necessary for understanding. Since then, the relationship between sound and meaning (expression and what is expressed) in language signals remains a subject of ongoing and, at times, intense debates, including opinions that are self-acknowledged as if they were personal discoveries (Fitch, 2016).

Aristotle believed that language originates from habit, speech is an expression of experiential thought, and writing is the expression of speech. Different races have different languages and writings, but the reflection of human thought is similar, and the vocabulary of a language is a sign of thought (Hudry, 2015), forming the basis for the later development of cultural linguistics and cognitive linguistics. According to Sharifian (2017), the emergence of cognitive linguistics may herald the return of cultural linguistics in a new form. The theories grounding cognitive linguistics recognize that cultural knowledge is not only the foundation of vocabulary but also central to grammar. Bui (2019) argued that behind

language always lies a cultural background, and language cannot be separated from culture, suggesting that language includes the beliefs of those who use it.

According to McElvenny (2018), the tasks of linguistics in the 19th century included theoretical analysis of the relationships between languages and comparative methods to reconstruct the initial language classifications. Historical-comparative linguistics emerged to study diachronic aspects, determining the relationships between languages (relative language), establishing parent language and proto-language to classify language families, language groups, and language branches, and explaining causes and standard principles of related changes.

Contrastive linguistics emerged as a subfield of comparative linguistics. Initially focused on vocabulary and grammar, by the 19th century, contrastive linguistics became a branch of linguistics with the main task of comparing language aspects, classifying languages based on structural similarities, finding linguistic universals, and applying insights to language learning (Ke, 2019).

Regarding branches of linguistics, we cannot overlook pragmatics. This term was introduced by Charles Morris in the 1930s in his work “Signs, Language and Behavior”, focusing on the origins, uses, and effects of signs in the overall behaviour of individuals interpreting signs. Pragmatics has undergone a developmental journey, including historical pragmatics, and it was not until the 1970s that pragmatics secured its significant position in linguistics. Pragmatics broadly investigates the use of natural language in communication, examining the relationships between languages and their users. Pragmatics provides a more comprehensive, profound, and generally reasonable explanation of human language behaviour (Scott-Phillips, 2017). Without pragmatics, understanding the true meaning of language or the genuine significance of an individual’s speech would be challenging.

EVOLUTION OF APPLIED LINGUISTICS

A brief look at the history of language research provokes the question “*In which segment of the development process does applied linguistics find its place?*” It is also important to note that segmenting research directions and evaluating authors as belonging to one or the other is relative. In scientific research, especially in social sciences, there is always interrelation and connectivity between research directions, which is often true in an individual’s research. For instance, Saussure’s research often focuses on structure, studying language “for its own sake” and “because of itself”. However, in reality, there are references to extralinguistics in his research. Saussure believes that studying the peripheral phenomena of language can achieve good results. Stawarska (2020) added the distinction between synchrony and diachrony, language and speech, as well as form and substance, which are here wholly separate, while in another aspect, there is mutual influence.

According to Grabe (2010), applied linguistics began around 1948 with the publication of the first issue of the journal “Language Learning: A Journal of Applied Linguistics”. The author also noted that, although there may be other conceivable starting points, this period is generally suitable for most discussions on the inception of applied linguistics. Similarly, according to a Chinese document, in the 19th century, Baudouin de Courtenay proposed the concept of applied linguistics and applied linguistics as a field took shape in the 1940s and 1950s.

Based on the relationship between applied linguistics and language teaching, some believe applied linguistics emerged in the United States in the 1940s. For instance, as early as 1946, at the Research Club of the University of Michigan, C. Fries, R. Lado, and their colleagues focused on teaching English

Revisiting Applied Linguistics and Language Education in the Digital Era

to foreigners and established the journal “Language Learning: Journal of Applied Linguistics” in 1951. This was the first journal to introduce the concept of applied linguistics. In 1959, Ferguson and colleagues founded the Center for Applied Linguistics in the United States. The year 1964 is considered a crucial time for applied linguistics: in France, the first scientific conference on applied linguistics was organized, and the International Association of Applied Linguistics (Association Internationale de Linguistique Appliquée; AILA) was established. In the United Kingdom, “The Linguistics Sciences and Language Teaching” was published, while “The Psychologist and the Foreign Language Teacher” was published in the United States. In 1977, in the United States, “The American Association for Applied Linguistics” was established, and so on. In summary, the formation, development, and research content of applied linguistics can be divided into three stages:

- (1) In the 1950s-60s of the 20th century, applied linguistics focused on language teaching. For example, in the United States, applied linguistics applied research results on the structure and function of language to teaching English in schools and later to second language and foreign language instruction (de Bot, 2015). Later on, beyond teaching, applied linguistics emphasized teaching and learning, focusing on second language acquisition (SLA) and real-world language issues such as language assessment, language policy, and language planning. By the late 1960s, applied linguistics, along with the task of second language teaching, had expanded into various language use domains.
- (2) In the 1970s-80s of the 20th century, applied linguistics, as a specialized field, aimed to address real-world language issues, including general language teaching with an emphasis on SLA and related issues such as multilingualism, language rights, language policy, language planning, and teacher training. The scientific content of applied linguistics has increasingly expanded into specialized areas related to language teaching, such as language assessment, language planning, language policy, professional language use, translation, lexicography, bilingual/multilingualism, language and technology, and corpus linguistics. These scientific contents attracted an increasing number of researchers, significantly increasing the number of applied linguists. This is because language, central to all communication activities with diverse and complex language-related issues in the real world, must be studied and addressed.
- (3) By the 1990s, alongside the mentioned research contents, applied linguistics further expanded into multilingual and critical studies research. From this point, applied linguistics shifted towards theoretical and empirical research on real-world issues, where language is a central concern (Brumfit, 1997). In the 1990s, applied linguistics extended its scope to discourse analysis, description, and explanation of language data in the sociocultural environment.

FIELDS OF RESEARCH IN APPLIED LINGUISTICS

Applied linguistics is a multidisciplinary field that practically applies linguistic theories and methodologies to address real-world issues. Within this expansive domain, various specialized subfields emerge, each dedicated to solving specific language-related challenges. Specifically, contemporary literature has so far shown specific fields in applied linguistics:

- (1) Language education broadly deals with language teaching and learning. Some main interests are resource or material development, teacher training, teacher-student interaction, second language

learners, motivation, language learning strategies, learning methods, developing language skills, language acquisition, and attitudes.

- (2) Language testing and assessment is primarily interested in the validity, reliability, usability, responsibility, and fairness of language.
- (3) Sociolinguistics is mainly concerned with ethnicity, social class, region, gender, and age of language users
- (4) Bilingualism and multilingualism focus on the status of multilingualism and its consequences: language contact, code-switching/code-mixing, translation, diffusion, loss, maintenance, social and cultural communication, and language teaching in a multilingual environment.
- (5) Neurolinguistics and psycholinguistics research on language disorders mainly studies language loss, dyslexia, physical impairments, autism, and language issues.
- (6) Language planning and policy are basically interested in the distribution of power, functions of languages, language policy models, language ecology, and the relationship between language and politics.
- (7) Pragmatics and discourse analysis mainly research dialects, discourse, and access to services and resources.
- (8) Translation and interpreting studies investigate approaches to translation, the use of technology in translation, and interpreting (sometimes considered a subfield of translation).

As in the aforementioned discussion, it is evident that the domain of applied linguistics is indeed very extensive and all-encompassing. Applied linguistics is an academic field directed towards practical applications to address language-related issues in the context of the real world (Grabe & Yamashita, 2022). It is not difficult to explain this because, since the 1960s, applied linguistics has established its own identity as an interdisciplinary field related to language issues in the real world. Therefore, if we consider multidisciplinary aspects, the research issues of applied linguistics do not stop, as mentioned above. Based on summaries and evaluations of applied linguistics, especially those by Grabe (2010), several critical issues in current applied linguistics can be synthesized as follows:

- (1) Language education has always been a focal point in applied linguistics. However, the issue of language education, encompassing both teaching and learning, needs to be approached with new awareness linked to the societal context, especially in the current “newly-normal” situation with the ongoing impact of the COVID pandemic and the prevalence of information technology in online teaching and learning. For instance, teaching methods, teacher-student interaction (dialogical interaction) (Xie & Correia, 2023), task-based learning, content-based learning, and so forth need to be reconsidered in light of the present circumstances. Teachers are becoming researchers through action research, handling information, understanding the functions that language serves, extracurricular activities, and language skills - all of these aspects require a fresh perspective. This is particularly crucial as education adapts to the challenges posed by the use of technology and the shift to online teaching in the current COVID-affected environment. Applied linguistics aims to assist language educators in gaining a deeper understanding of communication events (speech events) and engage them in action research practices, making them practitioners capable of teaching language effectively in the social environment (Alqarni, 2021).

Revisiting Applied Linguistics and Language Education in the Digital Era

- (2) Critical studies play an indispensable role in applied linguistics, covering essential aspects such as critical awareness, critical discourse analysis, critical pedagogy, learner/student rights (Lin, 2014), and the ethical dimensions of language assessment and language teaching evaluation practices.
- (3) Research on the use of language in specific discourse communities, such as academic or professional contexts, focuses on understanding how language is employed within each discourse community to achieve effective communication (Hoang & Bui, 2023). This involves examining the language practices, conventions, and strategies employed in academic and specialized domains to enhance communicative efficiency.
- (4) Describing and analyzing data in various discourse communities and communication contexts enriches the resources used for language teaching and learning (Lin, 2014).
- (5) Researching the issue of multilingual societal dynamics concentrates on bilingual/multilingual interaction in schools and communities (Duarte et al., 2023). The rationale is that multilingualism is associated with a range of language-societal issues, such as interaction, communication negotiation among groups, bilingual/multilingual education issues, migration and language, social equality, and language policy related to language use.
- (6) Research on language testing and assessment necessitates a shift in perspectives and practical testing practices: there is a need to move from assessing what learners can do at a specific point in time to using assessment to enhance the ongoing effectiveness of the learning process (Tsushima, 2015). In other words, continuous learning is considered the foundation for assessment to improve learners' overall proficiency.
- (7) Researching neurolinguistics and the impact of language learning on the brain's processing involves studying how language learning affects the processing mechanisms of the brain (Jeong et al., 2021). This is particularly relevant to individuals with language impairments within the brain's cortex.

TECHNOLOGY AND APPLIED LINGUISTICS

Advancements in technology have not only revolutionized language education but have also significantly impacted the analysis of language itself. This section first introduces the diverse array of technological tools available for the study of linguistic aspects, ranging from phonetics to discourse. Also, it presents how technology facilitates important SLA hypotheses, such as the *interaction hypothesis*, *sociocultural theory*, and *learner autonomy*. Finally, this section delves into practical applications of innovative technology to L2 teaching and learning by indicating various up-to-date case studies.

Application of Technology to Research of Linguistics Aspects

- (1) Phonetics and Phonology: *Phonology Assistant* is a discovery tool that automatically charts the sounds and helps the user discover and test phonological rules in a language. It can also sort lexical items by tone melody, perform phonological feature analysis, and create distribution charts. *Dekereke* is another tool for charting and searching phonetic and phonological data. It has the data loaded into the program and can handle large corpora. It can also generate phonetic transcriptions from orthographic texts and vice versa.
- (2) Vocabulary, syntax, semantics, and pragmatics analysis: Three predominant software can analyse all these aspects. First, *Text Inspector* is one of the most comprehensive and advanced software.

It can provide users with an overall difficulty score for texts based on over 200 metrics, such as statistics and readability, lexical diversity, parts of speech, meta-discourse markers, and more. It can also help align texts with the international CEFR grading standard and the English Vocabulary Profile. Second, *LEXTutor* is a web-based tool that allows users to choose a topic and a website where they can find an article for the analysis. It can also generate word lists, cloze tests, and concordances from provided texts. Third, *Vocab Kitchen*, similarly, is another web-based tool that has a more user-friendly design. It allows users to upload their texts or use sample texts from various sources. It can also compare texts with different word lists, such as the Academic Word List, the General Service List, and the British National Corpus.

- (3) Discourse Analysis: *MAXQDA* is a desktop-based tool that supports various types of qualitative and mixed methods research. It allows users to import, organize, code, annotate, and visualize texts. It can also help users create maps, charts, and diagrams to display the discourse structure and the connections between codes. Incorporating these technological tools into linguistic analysis not only expedites research processes but also opens new avenues for exploration and discovery within the vast landscape of language study.

Application of Technology to Revisiting of Second Language Education Hypotheses

One of the key hypotheses in SLA, initially proposed by Michael Long, is the *interaction hypothesis* (Long, 1981). It has been expanded through extensive empirical studies. This hypothesis stresses the critical role of interaction in SLA, emphasizing core constructs, such as input, negotiation for meaning, and output. Traditionally, these interactions take place in face-to-face communication in L2 classrooms. However, the digital era has expanded the realm of interaction to include both synchronous and asynchronous online communication.

Synchronous interaction: The ubiquity of digital communication platforms (e.g., *Zoom*, *Google Meet*, *Microsoft Teams*) has facilitated unprecedented opportunities for learners to engage in real-time conversations with native speakers or other language learners across the globe (Dooly & Vinagre, 2022). This dynamic, online interpersonal interaction has proven to catalyze English competence improvement (Darling-Hammond et al., 2020; Nejad et al., 2021; Xie & Correia, 2023). Learners now have the chance to practice language skills in authentic contexts, transcending geographical boundaries and cultural barriers.

Asynchronous interaction: Unlike synchronous interaction, asynchronous interaction offers a distinct set of advantages for SLA. This mode of communication, which includes email, discussion forums, and social media posts, allows learners to participate in language interactions at their own pace. This flexibility can be particularly beneficial for learners needing additional time to process language input and construct responses (Nejad et al., 2021). This type of interaction enables learners to engage more deeply with the language, as they can review and reflect upon the language used in the interactions (Xie & Correia, 2023). Moreover, the written nature of many asynchronous platforms can aid in developing literacy skills in the target language. These platforms (e.g., forums or social networking sites) also often provide a written record of interactions, which can be a valuable resource for learners to revisit and analyze as part of their learning process (Dooly & Vinagre, 2022). As such, asynchronous online communication is an increasingly important component of the digital landscape in SLA, complementing the rapid, real-time exchanges found in synchronous communication.

Sociocultural theory, proposed by Vygotsky (1978), posits that interaction between individuals and their sociocultural environment is paramount for cognitive development (Van der Veer, 2014). This perspective contrasts with more traditional views of language learning, which often focus primarily on the input-output dynamics or computational aspects of language acquisition. The hypothesis also suggests that learning is not just a process of internalizing linguistic input but also involves active participation in social practices (Penuel, 2016). Therefore, it is clear that teachers and other peers can *scaffold* L2 learners in the L2 learning journey. In more detail, teachers can leverage technology to provide targeted support, guiding students through challenging linguistic tasks (Bui et al., 2022). Simultaneously, learners can engage in collaborative learning experiences facilitated by technology, leading to peer scaffolding wherein individuals support each other's language development (Bui et al., 2022; Kivi et al., 2021).

Regarding the role of technology in this context, technology-mediated learning environments can provide rich, interactive settings where learners can engage in meaningful social practices related to language use. These environments can range from online collaborative platforms to digital language learning tools, each offering unique opportunities for social interaction and cultural immersion, central to the *sociocultural theory* of language learning. For example, online forums, social media, and virtual classrooms allow learners to engage in real-time discussions, collaborate on projects, and participate in group activities. These interactions are crucial for language development as they mirror natural language use in social contexts. To demonstrate it more specifically, regarding asynchronous interaction, a teacher can ask students to make a video talking about a particular topic and post it on the course's forum. Then, other students and teachers can watch to ask questions, give feedback, and provide suggestions so that they can learn from both their peers and the teacher.

Learner autonomy is a concept that describes the ability of learners to take control of their own learning journey (Lai, 2019). The theory is that by giving learners the freedom to take responsibility for their learning, including what they learn and how they learn it. The development of *learner autonomy* is seen as a cooperative learning process where learners are guided by educators, instead of directed or taught (Paltridge, 2021). Learners can identify and set their own learning goals and plans, and perform their learning activities. Also, learners reflect on their learning and evaluate their progress, understand the purpose of learning, understand their own learning processes, and apply various learning strategies in different contexts. Educators can help learners develop these skills through training and guidance, including setting tasks and assignments that encourage autonomous learning.

In regard to technological development, the use of the advancements can facilitate autonomous language learning. Specifically, it fosters a more personalized, engaging, and practical approach to education. Take diverse resources accessible as an example. Technology provides digital libraries and multimedia content, caters to varied learning preferences, and enhances engagement in language acquisition. Language learning applications offer personalized experiences, adapting to individual learning paces and providing interactive exercises. Online platforms facilitate real-world language practice and cultural exchange by connecting learners with native speakers and peers globally, which, as discussed in previous sections, fosters L2 development.

Application of Technology to Second Language Education

There is a burgeoning body of research exploring the integration of technology into L2 education. These studies primarily delve into the impact of technological advancements on L2 learners' acquisition. The findings suggest that L2 teachers can employ various tools, including computer-assisted language learning

(CALL), ePortfolios, virtual reality (VR), informal digital learning, and language massive open online courses (LMOOCs), to foster L2 learners' development.

Sydorenko (2015) employed a CALL tool to investigate the impact of oral practice through computer-delivered structured tasks (CASTs) involving native speaker (NS) models and open-ended tasks without NS input (learner-learner role-plays) on the pragmatic development of L2 learners. The research focused on two groups: one comprising 17 ESL learners who practised request speech acts through CASTs and another group who engaged in learner-learner open role-plays. Both the CASTs and role-plays were administered using the *Conversations* program developed by the Center for Language Education and Research at Michigan State University. Qualitative analysis of the participants' output during practice revealed distinct patterns. Rehearsal via CASTs was found to promote a focus on form and the incorporation of NS models into learners' speech. On the other hand, rehearsal via role-plays resulted in more creative but often pragmatically inappropriate language and content. Interestingly, role-plays, as opposed to CASTs, appeared to foster humorous language play, metapragmatic discussions, and extended turns resembling those found in naturalistic interactions. The study provides valuable insights into the effectiveness of different task types in pragmatic instruction with the assistance of technological advancements, shedding light on the nuanced impact of CASTs and learner-learner role-plays on the development of pragmatic skills among L2 learners.

To explore the influence of ePortfolios on L2 motivation and English proficiency in a higher education English for Academic Purposes (EAP) setting, Mujico and Lasagabaster (2019) conducted a study at a British university, involving 205 undergraduate students (mostly aged 20-25 and of Chinese nationality) enrolled in an EAP course. Using a mixed-methods approach, the researchers employed questionnaires and focus group interviews to investigate the impact of L2 possible self-imagery strategies and ePortfolios on L2 motivation, self-regulation, and language learning outcomes. The research design featured both a control group and an experimental group, with the latter actively utilizing ePortfolios. The data collection spanned a six-week period during the summer EAP program, involving pre-test and post-test methods. Quantitative data were obtained through a questionnaire assessing learner motivation and self-regulation, while language acquisition gains were evaluated through EAP summative course assessments. Additionally, qualitative insights were gathered from focus group interviews, which involved 30 students reflecting on their experiences with the intervention. The data analysis encompassed three dimensions: an examination of the overall effects of the intervention, an analysis of quantitative data concerning the extent of ePortfolio implementation, and an integration of qualitative data to offer deeper insights into participants' perceptions of the intervention. The results indicated that participants who fully engaged with the ePortfolios (the ePortfolio complete group) exhibited increased optimism regarding the motivational and ePortfolio benefits of the intervention, coupled with reduced aversion to self-regulation and the use of digital technologies. This suggests a noteworthy impact of ePortfolios on the language acquisition of L2 learners.

Chen and Hsu (2020) conducted a study, aimed at assessing the effectiveness of student English learning, game engagement, and self-regulated learning (SRL) from both cognitive and psychological perspectives. The research involved 274 students, aged 18 to 20, from the Taiwanese University of Science and Technology. Using a quasi-experimental design, the study employed pre-tests and post-tests to measure learning effectiveness in vocabulary, listening, and reading comprehension. The research instruments included a survey questionnaire based on Brockmyer et al.'s (2009) game engagement questionnaire (GEQ) and Pintrich and Groot's (1990) motivated strategies for learning questionnaire (MSLQ). Over a two-month period, students utilized a VR mobile learning app and completed a post-intervention

questionnaire. Data analysis revealed that self-efficacy, intrinsic value, and test anxiety significantly influenced both game engagement and game experience. Moreover, immersion, flow, and presence were identified as factors enhancing self-efficacy, while absorption and immersion contributed to improved self-regulation. The study's key conclusion was that student performance demonstrated a significant improvement in the VR game-based mobile learning environment. Additionally, the interactive features of the VR application and the challenges embedded in the game-based design were found to facilitate students' entry into a state of flow, thereby enhancing their motivation to learn.

Lee and Lee (2021) carried out a study to explore the connection between informal digital learning of English (IDLE), Dörnyei's (2003) L2 motivational self system (L2MSS), and foreign language enjoyment (FLE). This interdisciplinary research spanned areas such as CALL, SLA, and positive psychology. The study involved a purposive sampling of 661 EFL learners in South Korea, comprising middle school, high school, and university students. Using a cross-sectional design, data were collected through a comprehensive questionnaire covering sections on the L2MSS, IDLE practices, FLE, and demographic information. The research was conducted during the 2018-19 academic year, with participants completing the online questionnaire in computer labs or classrooms. Data analysis, carried out using the IBM SPSS 25 program, included descriptive analysis, Pearson's correlation analysis, and hierarchical regression analyses. The results revealed that both IDLE and the ideal L2 self significantly predicted FLE across all participant groups, while the ought-to L2 self exclusively predicted middle school students' FLE. These findings underscore the impact of students' engagement in digital activities outside the classroom and their motivational mindset on their emotional experience of learning a foreign language. The study emphasized the significance of cultivating students' ideal L2 self-images and providing support for their language learning in digital settings, as these factors can enhance their enjoyment of learning an L2. For middle school students, particularly in test-oriented Asian contexts, the study suggested that setting higher L2 learning expectations may further boost their learning enjoyment.

Rahimi's (2023) study employed the LMOOCs to investigate the L2 motivational self system and the technology acceptance of L2 learners. The research included 336 Iranian EFL students from 17 language institutes and 7 schools who participated in three LMOOC platforms. The study spanned from the summer semester of 2018 to the spring semester of 2021. For data collection, a three-part questionnaire was employed. The first part gathered demographic data, the second utilized a seven-point Likert scale to assess the technology acceptance model within the Iranian EFL and LMOOC context, and the third focused on indicators related to learners' L2 selves. The instruments were adapted from questionnaires developed by Zheng et al. (2018) and Henry and Cliffordson (2017), with revisions to evaluate constructs such as the authenticity gap. Data analysis was conducted using SPSS and partial least square structural equation modeling. The results indicated that learners with positive future images of language learning, aligning with the ideal L2 self, and intrinsic interests in the target English culture were more likely to engage in LMOOCs. LMOOCs were found to be useful and comfortable systems that enabled learners to fulfil obligations and meet others' expectations, aligning with the ought-to L2 self. Notably, a significant authenticity gap was observed, with learners expressing a preference for unstructured language contexts over structured ones. This finding sheds light on the learners' inclination towards informal and less regimented language learning experiences in the online environment.

Overall, the innovations in technology have significantly facilitated aspects of applied linguistics. They offer various tools for diverse facets of language study, from the analysis of linguistic aspects to the revisiting of SLA hypotheses and practical, pedagogical applications. As technology continues to

evolve, its integration into applied linguistics holds the promise of further enhancing the efficiency and effectiveness of language education and research.

DISCUSSION

With the view that applied linguistics is an interdisciplinary field, its content includes bilingualism and multilingualism, conversation analysis, contrastive linguistics, sign linguistics, language assessment, literacies, discourse analysis, language pedagogy, second language acquisition, language planning and policy, interlinguistics, stylistics, language teacher education, pragmatics, forensic linguistics, and translation. On the other hand, with a more limited interdisciplinary view, some academic fields related to applied linguistics are education, psychology, communication research, anthropology, and sociology. Applied linguistics may mainly focus on critical issues such as language teaching, translation, lexicography, onomastics, and forensic linguistics. Interdisciplinary fields of linguistics need to be separated from applied linguistics, such as sociolinguistics, psycholinguistics, anthropological linguistics/linguistic anthropology, clinical linguistics, computational linguistics, ethnolinguistics, mathematical linguistics, and neurolinguistics. It is possible to simultaneously use or clarify the nature and limits of the three terms: interdisciplinary, cross-disciplinary, and trans-disciplinary.

Regarding the realm of language education, it can be seen that from an initial focus on language teaching (primarily second language), with the concept of “*applied*” the scope of applied linguistics research has increasingly expanded. Accordingly, it seems that because applied linguistics overly utilizes the advantage of the concept of “*applied*”, its scope has become too broad, too fragmented, and rather vague, requiring expertise in too many fields while not having a set of unifying research paradigms. Therefore, the essence of applied linguistics is still an issue for discussion. For example, applied linguistics should have a core and a periphery. Teaching-learning has become an overly large content in form and importance; hence, it should be separated from applied linguistics to become educational linguistics.

The application of technology to applied linguistics has significantly transformed both language analysis and SLA. In language analysis, tools like *Phonology Assistant* and *Dekereke* offer innovative means for phonetic and phonological analysis, resonating with studies like Saito (2023) that emphasize precision in phonetics. Similarly, *Text Inspector* and *LEXTutor* represent advancements in analyzing vocabulary, syntax, semantics, and pragmatics, paralleling East’s (2016) focus on standardized language assessment and Nation’s (2022) work in vocabulary acquisition. *MAXQDA*, in discourse analysis, aligns with Paltridge’s (2021) qualitative approach, which highlights the importance of context in language.

In SLA, the digital era has expanded the scope of Long’s *interaction hypothesis* (1981), with platforms like *Zoom* and *Google Meet* facilitating synchronous interactions critical for language learning, as supported by Dooly and Vinagre (2022) and Xie and Correia (2023). The asynchronous interactions through emails or forums align with Swain’s (1995) *output hypothesis*, underlining the value of language production in learning. The *sociocultural theory*, drawing from Vygotsky (1978), finds practical application in technology-mediated SLA environments, facilitating social interaction and cultural immersion, as discussed by Nejad et al., (2021). Additionally, as conceptualized by Lai (2019), technology’s role in fostering learner autonomy is evident in the personalized learning experiences offered by digital resources and language apps, in line with Rassaei’s (2015) views on learner independence. Furthermore, technological advancements (e.g., CALL, ePortfolios, VR, and online courses) offer a variety of language pedagogical approaches. These tools show a positive impact on how L2 teaching and learning occur.

Incorporating such innovative technology not only enriches language pedagogical approaches but also positively reshapes the landscape of L2 teaching and learning methodologies.

CONCLUSION

Applied linguistics formed and developed as an inevitability of linguistics, helping to connect linguistics with reality and solve language-related issues in life. For a modern society like today, the contribution of applied linguistics is undeniable. However, for this reason, the subjects and scope of applied linguistics are extensive, leading to various perspectives. It is thought that, depending on each country's social reality and language situation, one can choose appropriate applied linguistics issues for each stage. Also, applying technology in applied linguistics is not merely a supplemental enhancement but a transformative force. It bridges traditional linguistic theories with modern digital methodologies, offering new insights and efficiencies in language analysis and acquisition. As technology continues to evolve, its application to linguistic research and education is poised to deepen, which reflects an ongoing synergy between digital innovation and language studies.

In future research, applied linguistics can delve deeper into the application of cutting-edge technologies like artificial intelligence and virtual reality in language education, which offer personalized and immersive learning experiences. Emphasizing interdisciplinary approaches, it will merge insights from cognitive science, psychology, and sociology to enhance understanding of language acquisition and use. Explorations into the complexities of multilingualism and cultural diversity, particularly in the context of globalization, are crucial. Additionally, there is a growing need for innovative language assessment tools and effective strategies for language disorder rehabilitation. These directions underscore the field's dynamism, which reflects its adaptability to global changes and technological advancements.

REFERENCES

- Alqarni, N. (2021). Language learners' willingness to communicate and speaking anxiety in online versus face-to-face learning contexts. *International Journal of Learning, Teaching and Educational Research*, 20(11), 57–77.
- Brumfit, C. (1997). How applied linguistics is the same as any other science. *International Journal of Applied Linguistics*, 7(1), 86–94. doi:10.1111/j.1473-4192.1997.tb00107.x
- Bui, H. P. (2019). A cognitive linguistic approach to teaching English idioms to EFL students: Experimental results. *3L: Language, Linguistics, Literature*, 25(2), 113–126. doi:10.17576/3L-2019-2502-09
- Bui, H. P. (2022). Vietnamese EFL students' use and misconceptions of cohesive devices in writing. *SAGE Open*, 12(3), 1–12. doi:10.1177/21582440221126993
- Bui, H. P., Hoang, V. Q., & Nguyen, N. H. (2022). Encouraging Vietnamese students' willingness to communicate: Insights from L2 English classrooms. *Language Related Research*, 13(5), 453–476. doi:10.52547/LRR.13.5.17

Bui, H. P., Nguyen, Q. N., Nguyen, L. T., & Nguyen, V. T. (2021). A cross-linguistic approach to analysing cohesive devices in expository writing by Asian EFL teachers. *3L: Language, Linguistics. Literature*, 27(2), 16–30.

Chen, Y. L., & Hsu, C. C. (2020). Self-regulated mobile game-based English learning in a virtual reality environment. *Computers & Education*, 154(103910), 103910. doi:10.1016/j.compedu.2020.103910

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97–140. doi:10.1080/10888691.2018.1537791

de Bot, K. (2015). *A history of applied linguistics: From 1980 to the present*. Routledge. doi:10.4324/9781315743769

Dooly, M., & Vinagre, M. (2022). Research into practice: Virtual exchange in language teaching and learning. *Language Teaching*, 55(3), 392–406. doi:10.1017/S0261444821000069

Duarte, J., García-Jimenez, E., McMonagle, S., Hansen, A., Gross, B., Szelei, N., & Pinho, A. S. (2023). Research priorities in the field of multilingualism and language education: A cross-national examination. *Journal of Multilingual and Multicultural Development*, 44(1), 50–64. doi:10.1080/01434632.2020.1792475

East, M. (2016). *Assessing foreign language students' spoken proficiency: Stakeholder perspectives on assessment innovation*. Springer. doi:10.1007/978-981-10-0303-5

Fitch, W. T. (2016). Sound and meaning in the world's languages. *Nature*, 539(7627), 39–40. doi:10.1038/nature20474 PMID:27783601

Fitch, W. T. (2017). Empirical approaches to the study of language evolution. *Psychonomic Bulletin & Review*, 24(1), 3–33. doi:10.3758/s13423-017-1236-5 PMID:28150125

Grabe, W. (2010). Applied linguistics: A twenty-first-century discipline. In R. B. Kaplan (Ed.), *The Oxford handbook of applied linguistics* (pp. 34–44). Oxford University Press.

Grabe, W., & Yamashita, J. (2022). *Reading in a Second Language* (2nd ed.). Cambridge University Press. doi:10.1017/9781108878944

Hall, C. J., Smith, P. H., & Wicaksono, R. (2017). *Mapping Applied Linguistics. A Guide for Students and Practitioners* (2nd ed.). Routledge. doi:10.4324/9781315226286

Halliday, M. K., & Matthiessen, M. M. (2014). *Halliday's introduction to functional grammar*. Routledge. doi:10.4324/9780203783771

Hoang, V. Q., & Bui, H. P. (2023). Encouraging EFL students' willingness to communicate inside Vietnamese high school classrooms: Teachers' strategies and students' beliefs. *Applied Research on English Language*, 12(2), 19–44.

Hudry, J. L. (2015). Aristotle on language and universal proof. In A. Koslow & A. Buchsbaum (Eds.), *The road to universal logic. Studies in universal logic*. Springer. doi:10.1007/978-3-319-10193-4_11

Isac, D., & Reiss, C. (2013). *I-Language: An introduction to linguistics as cognitive science*. Oxford University Press.

Jeong, H., Li, P., Suzuki, W., Sugiura, M., & Kawashima, R. (2021). Neural mechanisms of language learning from social contexts. *Brain and Language*, 212(104874), 104874. doi:10.1016/j.bandl.2020.104874 PMID:33220647

Ke, P. (2019). *Contrastive Linguistics*. Springer.

Kivi, J. P., Namaziandost, E., Alamdari, E. F., Saenco, N. R., Inga-Arias, M., Fuster-Guillén, D., Sirisakpanich, D., & Nasirin, C. (2021). The comparative effects of teacher versus peer-scaffolding on EFL learners' incidental vocabulary learning and reading comprehension: A sociocultural perspective. *Journal of Psycholinguistic Research*, 50(5), 1031–1047. doi:10.1007/s10936-021-09800-4 PMID:34312773

Lai, C. (2019). Technology and learner autonomy: An argument in favor of the nexus of formal and informal language learning. *Annual Review of Applied Linguistics*, 39, 52–58. doi:10.1017/S0267190519000035

Le, H. H. B., & Bui, H. P. (2021). Mediation of digital tools in English learning. *Language Education and Acquisition Research Network*, 14(2), 512–528.

Lee, J. S., & Lee, K. (2021). The role of informal digital learning of English and L2 motivational self system in foreign language enjoyment. *British Journal of Educational Technology*, 52(1), 358–373. doi:10.1111/bjet.12955

Lee, J. S., Yeung, N. M., & Osburn, M. B. (2022). Foreign language enjoyment as a mediator between informal digital learning of English and willingness to communicate: A sample of Hong Kong EFL secondary students. *Journal of Multilingual and Multicultural Development*, 1–19. doi:10.1080/01434632.2022.2112587

Li, C., & Dewaele, J. M. (2020). The predictive effects of trait emotional intelligence and online learning achievement perceptions on foreign language class boredom among Chinese university students. *Foreign Languages and Foreign Language Teaching*, 5, 33–44.

Lin, A. (2014). Critical discourse analysis in applied linguistics: A methodological review. *Annual Review of Applied Linguistics*, 34, 213–2322. doi:10.1017/S0267190514000087

Long, M. H. (1981). Input, interaction, and second language acquisition. *Annals of the New York Academy of Sciences*, 379(1), 259–278. doi:10.1111/j.1749-6632.1981.tb42014.x

McElvenny, J. (2018). August Schleicher and materialism in 19th-century linguistics. *Historiographia Linguistica*, 45(1-2), 133–152. doi:10.1075/hl.00018.mce

Mujico, F. G., & Lasagabaster, D. (2019). Enhancing L2 motivation and English proficiency through technology. *Complutense Journal of English Studies*, 27, 59–78. doi:10.5209/cjes.62990

Nation, I. S. P. (2022). *Learning vocabulary in another language* (3rd ed.). Cambridge University Press. doi:10.1017/9781009093873

Nejad, M. Z., Golshan, M., & Naeimi, A. (2021). The effect of synchronous and asynchronous computer-mediated communication (CMC) on learners' pronunciation achievement. *Cogent Psychology*, 8(1).

- Paltridge, B. (2021). *Discourse analysis: An introduction* (3rd ed.). Bloomsbury.
- Penuel, W. R., Van Horne, K., DiGiacomo, D., & Kirshner, B. (2016). A social practice theory of learning and becoming across contexts and time. *Frontline Learning Research*, 4(4), 30–38. doi:10.14786/flr.v4i4.205
- Phakiti, A., De Costa, P., Plonsky, L., & Starfield, S. (2018). Applied Linguistics Research: Current Issues, Methods, and Trends. In A. Phakiti, P. De Costa, L. Plonsky, & S. Starfield (Eds.), *The Palgrave Handbook of Applied Linguistics Research Methodology*. Palgrave Macmillan. doi:10.1057/978-1-137-59900-1_1
- Rahimi, A. R. (2023). The role of EFL learners' L2 self-identities, and authenticity gap on their intention to continue LMOOCs: Insights from an exploratory partial least approach. *Computer Assisted Language Learning*, 1–32. doi:10.1080/09588221.2023.2202215
- Rassaei, E. (2015). Recasts, field dependence/independence cognitive style, and L2 development. *Language Teaching Research*, 19(4), 499–518. doi:10.1177/1362168814541713
- Saito, K. (2023). How does having a good ear promote successful second language speech acquisition in adulthood? Introducing auditory precision hypothesis-L2. *Language Teaching*, 56(4), 522–538. doi:10.1017/S0261444822000453
- Saussure, F. (1973). *Giáo trình Ngôn ngữ học Đại cương/ Cours de linguistique générale*. Social Sciences Publishing House.
- Scott-Phillips, T. C. (2017). Pragmatics and the aims of language evolution. *Psychonomic Bulletin & Review*, 24(1), 186–189. doi:10.3758/s13423-016-1061-2 PMID:27368617
- Sharifian, F. (2017). Cultural Linguistics: The State of the Art. In F. Sharifian (Ed.), *Advances in Cultural Linguistics* (pp. 1–28). Springer. doi:10.1007/978-981-10-4056-6_1
- Stawarska, B. (2020). *Saussure's linguistics, structuralism, and phenomenology*. Palgrave Macmillan. doi:10.1007/978-3-030-43097-9
- Swain, M. (1995). Three functions of output in second language learning. In G. Cook & B. Seidlhofer (Eds.), *Principle and practice in applied linguistics* (pp. 125–144).
- Sydorenko, T. (2015). The use of computer-delivered structured tasks in pragmatic instruction: An exploratory study. *Intercultural Pragmatics*, 12(3), 333–362. doi:10.1515/ip-2015-0017
- Trotzke, A., & Kupisch, T. (2020). Formal linguistics and language education: Bridging the gap. In A. Trotzke & T. Kupisch (Eds.), *Formal Linguistics and Language Education* (pp. 1–8). doi:10.1007/978-3-030-39257-4_1
- Tsushima, R. (2015). Methodological diversity in language assessment research: The role of mixed methods in classroom-based language assessment studies. *International Journal of Qualitative Methods*, 14(2), 104–121. doi:10.1177/160940691501400202
- Van der Veer, R. (2014). *Lev Vygotsky*. Bloomsbury.
- Vygotsky, L. S. (1978). *Mind in society*. Harvard University Press.

Xie, J., & Correia, A. (2023). The effects of instructor participation in asynchronous online discussions on student performance: A systematic review. *British Journal of Educational Technology*, 1–19.

ADDITIONAL READINGS

Conrad, S., Hartig, A., & Santelmann, L. (2020). *The Cambridge Introduction to Applied Linguistics*. Cambridge University Press. doi:10.1017/9781108658089

Hafner, C. (2023). The context and media of legal discourse. *Applied Linguistics*, 44(6), 1185–1188. doi:10.1093/applin/amab021

Kircher, R., & Kutlu, E. (2023). Multilingual realities, monolingual ideologies: Social media representations of Spanish as a heritage language in the United States. *Applied Linguistics*, 44(6), 1077–1099. doi:10.1093/applin/amac076

Martin, J. L., & Wright, K. E. (2023). Bias in automatic speech recognition: The case of African American language. *Applied Linguistics*, 44(4), 613–630. doi:10.1093/applin/amac066

Schmitt, N., & Rodgers, P. H. M. (2019). *An Introduction to Applied Linguistics*. Routledge. doi:10.4324/9780429424465

Wu, J. G. (2023). Mobile assisted language learning across educational contexts. *Applied Linguistics*, 44(6), 1175–1178. doi:10.1093/applin/amac071

KEY TERMS AND EXPLANATIONS

Applied Linguistics: The study of language as it affects situations in real life, for example in education or technology.

Language Analysis: The examination and study of language to understand its structure/form, meaning, and use. This analysis can be applied to various aspects of language (e.g., syntax, semantics, pragmatics, and discourse).

Language Education: The process and practice of teaching a second or foreign language.

Multidisciplinary: An approach that involves contributions from multiple distinct disciplines or fields of study to address a specific issue, problem, or research question.

Sociolinguistics: The study of the relationship between language and society. It explores how language use is influenced by social factors (e.g., culture, identity, ethnicity, gender, and socioeconomic status).

Technological Advancements: The continuous improvement, innovation, and progress in technology, leading to the development of new tools, systems, devices, and processes that enhance efficiency, effectiveness, and capabilities in various fields.

Compilation of References

- Abbuhl, R., Gass, S., & Mackey, A. (2014). Experimental research design. In R. J. Podesva & D. Sharma (Eds.), *Research Methods in Linguistics* (pp. 116–134). Cambridge University Press., doi:10.1017/CBO9781139013734.008
- Abbuhl, R., & Mackey, A. (2017). Second language acquisition research methods. In K. A. King, Y.-J. Lai, & S. May (Eds.), *Research methods in language and education* (pp. 183–193). Springer International Publishing., doi:10.1007/978-3-319-02249-9_13
- Abidin, M. Z., & Rahmat, A. (2020). English learning model: An ethnography study. *Getsempena English Education Journal*, 7(1), 183–199. doi:10.46244/geej.v7i1.1059
- Adu, P. (2019). *A step-by-step guide to qualitative data coding*. Routledge. doi:10.4324/9781351044516
- Ajemba, M. N., & Arene, E. C. (2022). Possible advantages that may be enhanced with the adoption of research triangulation or mixed methodology. *Magna Scientia Advanced Research and Reviews*, 6(1), 58–61. doi:10.30574/msarr.2022.6.1.0066
- Allo, M. D. G., Rahman, A., & Sultan. (2020). A critical discourse analysis on lecturers' language power in EFL teaching: An ethnography study at a higher education. *Asian EFL Journal*, 27(3), 177-201.
- Alqarni, N. (2021). Language learners' willingness to communicate and speaking anxiety in online versus face-to-face learning contexts. *International Journal of Learning, Teaching and Educational Research*, 20(11), 57–77.
- Alshuraiaan, A. (2023). Exploring the relationship between teacher-student interaction patterns and language learning outcomes in TESOL classrooms. *Journal of English Language Teaching and Applied Linguistics*, 5(3), 25–34. doi:10.32996/jeltal.2023.5.3.3
- Alwaleedi, M., Gillies, R., & Hamid, M. O. (2018). Collaborative writing in Arabic as second language (ASL) Classrooms: A mixed-method study. *Language, Culture and Curriculum*, 32(2), 157–172. doi:10.1080/07908318.2018.1521422
- Alzaanin, E. I. M. (2023). Uncovering university teachers' perspectives: Conceptualizations, factors, and perceptions of second language learner engagement. *The Qualitative Report*, 28(8), 2230–2257. doi:10.46743/2160-3715/2023.5996
- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. American Educational Research Association.
- Andrade, A. D. (2014). Interpretive research aiming at theory building: Adopting and adapting the case study design. *The Qualitative Report*. doi:10.46743/2160-3715/2009.1392
- Angelides, P. (2001). The development of an efficient technique for collecting and analyzing qualitative data and the analysis of critical incidents. *International Journal of Qualitative Studies in Education : QSE*, 14(3), 429–442. doi:10.1080/09518390110029058

Compilation of References

- Angrosino, M. (2007). *Doing Ethnographic and Observational Research* (1 ed.). SAGE Publications. doi:10.4135/9781849208932
- Ansarifar, A., Shahriari, H., & Pishghadam, R. (2018). Phrasal complexity in academic writing: A comparison of abstracts written by graduate students and expert writers in applied linguistics. *Journal of English for Academic Purposes*, 31, 58–71. doi:10.1016/j.jeap.2017.12.008
- Arora, P., Kumar, H., & Panigrahi, B. K. (2020). Prediction and analysis of covid-19 positive cases using deep learning models: A descriptive case study of India. *Chaos, Solitons & Fractals*, 139, 110017. doi:10.1016/j.chaos.2020.110017 PMID:32572310
- Ary, D., Jacobs, L. C., & Sorensen, C. (2006). *Introduction to research in education* (8th ed.). Thomson Wadsworth.
- Ary, D., Jacobs, L. C., Sorensen, C., & Walker, D. A. (2010). *Introduction to Research in education* (9th ed.). WADSWORTH Cengage Learning.
- Association, A. P. (2019). *Publication manual (OFFICIAL) 7th edition of the American psychological association*. APA. <https://apastyle.apa.org/products/publication-manual-7th-edition-spiral>
- Atkins, L., & Wallace, S. (2012). *Qualitative education research*. SAGE. doi:10.4135/9781473957602
- Atkinson, P. (2007). *Ethnography: Principles in practice*. Routledge. doi:10.4324/9780203944769
- Atkinson, P. A. (2019). *Writing ethnographically*. SAGE Publications Ltd.
- Azungah, T. (2018). Qualitative research: Deductive and inductive approaches to data analysis. *Qualitative Research Journal*, 18(4), 383–400. doi:10.1108/QRJ-D-18-00035
- Badke, W. (2017). The Literature Review in a Digital Age. *Online Searcher*, 41(3), 57–59.
- Bailey, J. (2008). First steps in qualitative data analysis: Transcribing. *Family Practice*, 25(2), 127–131. doi:10.1093/fampra/cmn003 PMID:18304975
- Bänziger, T., Mortillaro, M., & Scherer, K. R. (2012). Introducing the Geneva Multimodal expression corpus for experimental research on emotion perception. *Emotion (Washington, D.C.)*, 12(5), 1161–1179. doi:10.1037/a0025827 PMID:22081890
- Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, 2(2), 113–115. doi:10.1002/hbe2.191 PMID:32510042
- Baralt, M. (2012). Coding Qualitative Data. In A. Mackey & S. M. Gass (Eds.), *Research methods in second language acquisition: A practical guide* (pp. 222–244). Wiley.
- Bardovi-Harlig, K. (1999). From morpheme studies to temporal semantics. *Studies in Second Language Acquisition*, 21(3), 341–382. doi:10.1017/S0272263199003010
- Barkhuizen, G. (2011). Narrative knowledging in TESOL. *TESOL Quarterly*, 45(3), 391–414. doi:10.5054/tq.2011.261888
- Barkhuizen, G. (2014). Revisiting narrative frames: An instrument for investigating language teaching and learning. *System*, 47, 12–27. doi:10.1016/j.system.2014.09.014
- Barkhuizen, G., Benson, P., & Chik, A. (2014). *Narrative inquiry in language teaching and learning research*. Routledge.
- Barkhuizen, G., & Wette, R. (2008). Narrative frames for investigating the experiences of language teachers. *System*, 36(3), 372–387. doi:10.1016/j.system.2008.02.002

- Bartoszynski, R., & Niewiadomska-Bugaj, M. (2007). *Probability and statistical inference*. John Wiley & Sons.
- Baškarada, S. (2014). Qualitative case study guidelines. *The Qualitative Report*. doi:10.46743/2160-3715/2014.1008
- Bayram, İ., & Bıkmaz, F. (2021). Implications of Lesson Study for Tertiary-Level EFL Teachers' Professional Development: A Case Study From Turkey. *SAGE Open*, 11(2). doi:10.1177/21582440211023771
- Beebe, J. D. (1994). Teacher and student views of EFL classroom activities: An ethnographic study. *Language, Culture and Curriculum*, 7(3), 191–203. doi:10.1080/07908319409525177
- Beebe, L. M., & Giles, H. (1984). Speech-accommodation theories: A discussion in terms of second-language acquisition. *International Journal of the Sociology of Language*, 1984(46), 5–32. doi:10.1515/ijsl.1984.46.5
- Benson, P. (2014). Narrative inquiry in applied linguistics research. *Annual Review of Applied Linguistics*, 34, 154–170. doi:10.1017/S0267190514000099
- Benson, P. (2021). Space in narrative inquiry on second language learning. *System*, 102, 1–8. doi:10.1016/j.system.2021.102602
- Berger, R. (2013). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219–234. doi:10.1177/1468794112468475
- Bernard, H. R., Wutich, A., & Ryan, G. W. (2017). *Analyzing qualitative data: Systematic approaches* (2nd ed.). Sage.
- Bingham, A. J. (2023). From data management to actionable findings: A five-phase process of qualitative data analysis. *International Journal of Qualitative Methods*, 22, 1–11. doi:10.1177/16094069231183620
- Bingham, A. J., & Witkowsky, P. (2022). Deductive and inductive approaches to qualitative data analysis. In C. Vanover, P. Mihas, & J. Saldaña (Eds.), *Analyzing and interpreting qualitative data: After the interview* (pp. 133–146). Sage.
- Birch, M., & Miller, T. (2012). Encouraging participation: ethics and responsibilities. In Miller T., Birch, M., Mauthner, M., & Jessop, J. (2nd eds.). *Ethics in qualitative research*. Sage. doi:10.4135/9781473913912.n7
- Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, 26(13), 1802–1811. doi:10.1177/1049732316654870 PMID:27340178
- Block, D., Gray, J., & Holborow, M. (2012). *Neoliberalism and applied linguistics*. Routledge., doi:10.4324/9780203128121
- Blommeart, J., & Jie, F. (2020). Fieldwork as an intellectual enterprise: Reflections on preparation and skills. *Qualitative Research Journal*, 20(3), 297–312.
- Boas, F. (1982). *Race, language, and culture*. University of Chicago Press.
- Bolderston, A. (2008). Writing an Effective Literature Review. *Journal of Medical Imaging and Radiation Sciences*, 39(2), 86–92. doi:10.1016/j.jmir.2008.04.009 PMID:31051808
- Booth, A., Sutton, A., Clowes, M., & Marrison, M.-S. J. (2022). *Systematic approaches to a successful literature review*. SAGE Publications.
- Borg, S. (2015). *Teacher cognition and language education: Research and practice*. Bloomsbury Publishing.
- Bowen, G. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. doi:10.3316/QRJ0902027

Compilation of References

- Bracken, S. (2010). Discussing the Importance of Ontology and Epistemology Awareness in Practitioner Research. *Worcester Journal of Learning and Teaching*, 4(4). <https://eprints.worc.ac.uk/id/eprint/843>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. doi:10.1191/1478088706qp063oa
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, 11(4), 589–597. doi:10.1080/2159676X.2019.1628806
- Brinkmann, S., & Kvale, S. (2018). *Doing interviews*. SAGE Publications Ltd., doi:10.4135/9781529716665
- Brown, A. (2019). Enhancing Student Engagement Through Exploratory Action Research in Language Teaching. *Language Education Journal*, 25(3), 112–125.
- Brown, A. (2020). The Impact of Action Research Vulnerabilities on Publication Visibility in Educational Research. *Educational Development Journal*, 12(4), 112–125.
- Brown, A., & Garcia, B. (2020). Action research and the English as a foreign language practitioner. *The Journal of Educational Research*, 45(2), 78–89.
- Brown, A., & Johnson, M. (2018). Enhancing EFL Teaching Practices Through Action Research. *Journal of Language Education Research*, 12(3), 45–58.
- Brown, A., & Smith, B. (2019). Challenges in Action Research: A Comprehensive Overview. *Journal of Research in Education*, 42(2), 143–156.
- Brumfit, C. (1997). How applied linguistics is the same as any other science. *International Journal of Applied Linguistics*, 7(1), 86–94. doi:10.1111/j.1473-4192.1997.tb00107.x
- Bruster, B. G., & Peterson, B. R. (2013). Using critical incidents in teaching to promote reflective practice. *Reflective Practice*, 14(2), 170–182. doi:10.1080/14623943.2012.732945
- Bryant, A. (2017). *Grounded theory and grounded theorizing: Pragmatism in research practice*. Oxford University Press. doi:10.1093/acprof:oso/9780199922604.001.0001
- Bryda, G., & Costa, A. P. (2023). Qualitative Research in Digital Era: Innovations, Methodologies and Collaborations. *Social Sciences (Basel, Switzerland)*, 12(10), 570. doi:10.3390/socsci12100570
- Bryfonski, L., & Ma, X. (2020). Effects of implicit versus explicit corrective feedback on Mandarin tone acquisition in a SCMC learning environment. *Studies in Second Language Acquisition*, 42(1), 61–88. doi:10.1017/S0272263119000317
- Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
- Bryman, A., & Burgess, B. (1994). *Analyzing qualitative data*. Routledge., doi:10.4324/9780203413081
- Buchstaller, I., & Khattab, G. (2013). *Population samples*. In by R. J. Podesva & D. Sharma, *Research methods in linguistics*. CUP.
- Bui, H. P. (2022). Vietnamese EFL students' use and misconceptions of cohesive devices in writing. *SAGE Open*, 12(3), 1–12. doi:10.1177/21582440221126993
- Bui, H. P., Hoang, V. Q., & Nguyen, N. H. (2022). Encouraging Vietnamese students' willingness to communicate: Insights from L2 English classrooms. *Language Related Research*, 13(5), 453–476. doi:10.52547/LRR.13.5.17
- Bui, H. P., Nguyen, Q. N., Nguyen, L. T., & Nguyen, V. T. (2021). A cross-linguistic approach to analysing cohesive devices in expository writing by Asian EFL teachers. *3L: Language, Linguistics. Literature*, 27(2), 16–30.

- Burns, A. (2010). *Doing action research in English language teaching: A guide for practitioners*. Routledge.
- Burns, A. (2015). The action research in ELICOS program: Refining the development of a national model. *Research Notes*, 60, 4–8.
- Burns, A., & Richards, J. C. (Eds.). (2009). *The Cambridge guide to second language teacher education*. Cambridge University Press. doi:10.1017/9781139042710
- Burns, R. B. (2000). *Introduction to research methods*. SAGE Publications Inc.
- Burroughs, N., Gardner, J., Lee, Y., Guo, S., Touitou, I., Jansen, K., & Schmidt, W. (2019). *Teaching for Excellence and Equity: Analyzing Teacher Characteristics, Behaviors and Student Outcomes with TIMSS*. Springer., doi:10.1007/978-3-030-16151-4
- Calder, G. (2020). Ethics and qualitative research. *Handbook of Qualitative Research in Education*. Springer. doi:10.4337/9781788977159.00017
- Cameron, D., Frazer, E., Harvey, P., Rampton, M. B. H., & Richardson, K. (2018). *Researching language: Issues of power and method*. Routledge. doi:10.4324/9780429436246
- Campbell, E., & Lassiter, L. E. (2014). *Doing ethnography today: Theories, methods, exercises*. Wiley-Blackwell.
- Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: Complex or simple? Research case examples. *Journal of Research in Nursing*, 25(8), 652–661. doi:10.1177/1744987120927206
- Canagarajah, A. S. (2006). The place of world Englishes in composition: Pluralization continued. *College Composition and Communication*, 57(4), 586–619. <https://www.jstor.org/stable/20456910>. doi:10.58680/cc20065061
- Candela, A. G. (2019). Exploring the function of member checking. *The Qualitative Report*, 24(3), 619–628. doi:10.46743/2160-3715/2019.3726
- Carcary, M. (2009). The research audit trial- enhancing trustworthiness in qualitative inquiry. *Electronic Journal of Business Research Methods*, 7(1), 11–24. doi:10.34190/JBRM.18.2.008
- Carr, W., & Kemmis, S. (1986). *Becoming Critical: Education Knowledge and Action Research*. Falmer.
- Cash, P., Stanković, T., & Štorga, M. (2016). An introduction to experimental design research. In P. Cash, T. Stanković, & M. Štorga (Eds.), *Experimental design research: Approaches, perspectives, applications* (pp. 3–12). Springer Cham., doi:10.1007/978-3-319-33781-4_1
- Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in Pharmacy Teaching & Learning*, 10(6), 807–815. doi:10.1016/j.cptl.2018.03.019 PMID:30025784
- Çelik, S., & Dikilitaş, K. (2015). Action research as a professional development strategy. In S. Borg & H. S. Sanchez (Eds.), *International perspectives on teacher research* (pp. 125–138). Palgrave Macmillan. doi:10.1057/9781137376220_10
- Chan, E. Y. M. (2017). Narrative inquiry: A dynamic relationship between culture, language and education. *The Australian Journal of Teacher Education*, 46(2), 22–34. doi:10.14221/ajte.2017v42n6.2
- Chatterton, A., Fuller, B., & Routledge, C. (2007). Collaborative Knowledge Production in Participatory Action Research. *Journal of Social Change*, 10(4), 215–230.
- Chen, L. (2021). Collaborative Learning Communities in EFL Education: A Focus on Action Research. *International Journal of Educational Innovation*, 25(2), 112–125.

Compilation of References

- Chen, M., & Li, W. (2022). The influence of form-focused instruction on the L2 Chinese oral production of Korean native speakers. *Frontiers in Psychology, 13*, 790424. Advance online publication. doi:10.3389/fpsyg.2022.790424 PMID:35478761
- Chen, Y. L., & Hsu, C. C. (2020). Self-regulated mobile game-based English learning in a virtual reality environment. *Computers & Education, 154*(103910), 103910. doi:10.1016/j.compedu.2020.103910
- Cheung, A. (2021). Language teaching during a pandemic: A case study of zoom use by a secondary ESL teacher in Hong Kong. *RELC Journal, 54*(1), 55–70. doi:10.1177/0033688220981784
- Chiarelli, A., Johnson, R., Pinfield, S., & Richens, E. (2019). Preprints and Scholarly Communication: Adoption, Practices, Drivers and Barriers. *F1000 Research, 8*(2), 971. doi:10.12688/f1000research.19619.1 PMID:32055396
- Chik, A. (2017). Beliefs and practices of foreign language learning: A visual analysis. *Applied Linguistics Review, 9*(2-3), 1–25. doi:10.1515/applirev-2016-1068
- Chikamatsu, N., & Jin, L. (Eds.). (2023). *A Transdisciplinary Approach to Chinese and Japanese Language Teaching: Collaborative Pedagogy Across Languages, Disciplines, Communities, and Borders*. Taylor & Francis. doi:10.4324/9781003266976
- Chilisa, B., & Phatshwane, K. (2022). Qualitative Research within a postcolonial indigenous paradigm. In U. Flick (Ed.), *The Sage handbook of qualitative research design* (pp. 225–239). Sage. doi:10.4135/9781529770278.n15
- Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative Research, 6*(3), 319–340. doi:10.1177/1468794106065006
- Christensen, L. B., Johnson, B., & Turner, L. A. (2011). *Research methods, design, and analysis*. Pearson.
- Cian, H. (2021). Sashaying across party lines: Evidence of and arguments for the use of validity evidence in qualitative education research. *Review of Research in Education, 45*(1), 253–290. doi:10.3102/0091732X20985079
- Clandinin, D. J., & Caine, V. (2013). Narrative inquiry. In A. A. Trainor & E. Graue (Eds.), *Reviewing qualitative research in the social sciences* (pp. 166–179). Routledge.
- Clandinin, D. J., & Huber, J. (2010). Narrative inquiry. In B. McGraw, E. Baker, & P. Perterso (Eds.), *International encyclopedia of education* (3rd ed., pp. 436–441). Elsevier. doi:10.1016/B978-0-08-044894-7.01387-7
- Clandinin, J., Pushor, D., & Orr, A. M. (2007). Navigating sites for narrative inquiry. *Journal of Teacher Education, 58*(1), 21–35. doi:10.1177/0022487106296218
- Clarke, V., & Braun, V. (2016). Thematic analysis. *The Journal of Positive Psychology, 12*(3), 297–298. doi:10.1080/17439760.2016.1262613
- Cockerham, W. C. (2013). Social causes of health and disease. *Polity*.
- Coffey, A. (1999). *The ethnographic self*. SAGE Publications Ltd., doi:10.4135/9780857020048
- Coffey, A. (2018). Doing ethnography. *Sage (Atlanta, Ga.)*.
- Coghlan, D. (2019). *Doing action research in your own organization* (6th ed.). Sage Publications.
- Cohen, L., Manion, L., & Morrison, K. (2013). Research methods in education.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8th ed.). Routledge., doi:10.4324/9781315456539

- Connelly, F. M., & Clandinin, D. J. (2006). Narrative inquiry. In J. L. Green, G. Camilli, & P. Elmore (Eds.), *Handbook of complementary methods in education research* (pp. 477–487). Lawrence Erlbaum.
- Conrad, S., Hartig, A., & Santelmann, L. (2020). *The Cambridge introduction to applied linguistics*. Cambridge University Press. doi:10.1017/9781108658089
- Consoli, S., & Dikilitaş, K. (2021). Research engagement in language education. *Educational Action Research*, 3(29), 347–357. doi:10.1080/09650792.2021.1933860
- Cooksey, R., McDonald, G., Cooksey, R., & McDonald, G. (2019). How do I manage the sampling process? In R. Cooksey & G. McDonald, *Surviving and thriving in postgraduate research* (pp. 827-894). Springer.
- Cook, T. D., & Shadish, W. R. (1994). Social experiments: Some developments over the past fifteen years. *Annual Review of Psychology*, 45(1), 545–580. doi:10.1146/annurev.ps.45.020194.002553
- Cook, T. D., & Wong, V. C. (2008). Better quasi-experimental practice. In P. Alasuutari, L. Bickman, & J. Brannen (Eds.), *The SAGE handbook of social research methods* (pp. 134–165). SAGE Publications Ltd., doi:10.4135/9781446212165.n10
- Cooper, D. R., & Schindler, P. S. (2020). *Business research methods*. McGraw-Hill Education.
- Copland, F., & Creese, A. (2015). Linguistic ethnography: Collecting, analysing and presenting data. *Sage (Atlanta, Ga.)*. doi:10.4135/9781473910607
- Cornish, F., Breton, N., Moreno-Tabarez, U., Delgado, J., Rua, M., Aikins, A. G., & Hodgetts, D. (2023). Participatory action research. *Nature Reviews. Methods Primers*, 3(34), 1–14. doi:10.1038/s43586-023-00214-1
- Costa, P. I. D., Kessler, M., & Gajasinghe, K. (2022). Ethnography. In S. Li, P. Hiver, & M. Papi (Eds.), *The Routledge handbook of second language acquisition and individual differences* (pp. 427–440). Routledge. doi:10.4324/9781003270546-34
- Costa, P. I. D., Randez, R. A., Cinaglia, C., & Montgomery, D. P. (2022). Qualitative ISLA research methodologies and methods. In L. Gurzynski-Weiss & Y. Kim (Eds.), *Research methods in applied linguistics 3: Instructed second language acquisition research methods* (pp. 55–78). John Benjamins Publishing Company. doi:10.1075/rmal.3.03dec
- Costa, P. I. D., Randez, R. A., Her, L., & Green-Eneix, C. A. (2021). Navigating ethical challenges in second language narrative inquiry research. *System*, 102, 1–9. doi:10.1016/j.system.2021.102599
- Creese, A., Bhatt, A., Bhojani, N., & Martin, P. (2008). Fieldnotes in team ethnography: Researching complementary schools. *Qualitative Research*, 8(2), 197–215. doi:10.1177/1468794107087481
- Creswell, J. W. (2009). *Research designs. Qualitative, quantitative, and mixed methods approaches*.
- Creswell, J. W. (2012). *Educational research*. Pearson.
- Creswell, J. W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (4th ed.). Pearson Education.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). SAGE Publications.
- Creswell, J. W. (2014). *Research designs. Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publication.
- Creswell, J. W., & Báez, J. C. (2021). *30 essential skills for the qualitative researcher* (2nd ed.). Sage.

Compilation of References

- Creswell, J. W., & Clark, V. L. P. (2011). *Designing and Conducting Mixed Methods Research* (2nd ed.). Sage.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: qualitative, quantitative, and mixed methods approaches*. SAGE Publications.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Creswell, J. W., & Creswell, J. D. (2023). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (6th ed.). Sage.
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, 39(3), 124–130. doi:10.1207/s15430421tip3903_2
- Criado, R., & González-Romero, P. (2023). *Exploring First Language Use in Non-Formal Foreign Language Education: A Mixed-Method Approach*. *Arab World English Journals* (Vol. 14). AWEJ.
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. SAGE Publications.
- Daniel, B. K., Asil, M., & Carr, S. (2024). Psychometric properties of the TACT framework- determining rigor in qualitative research. *Frontiers in Research Metrics and Analytics*, 8(1276446), 1–10. doi:10.3389/frma.2023.1276446 PMID:38259871
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97–140. doi:10.1080/10888691.2018.1537791
- Davies, D., & Dodd, J. (2002). Qualitative research and the question of rigor. *Qualitative Health Research*, 12(2), 279–289. doi:10.1177/104973230201200211 PMID:11837376
- Davis, A. (2019). Challenges in Student Feedback in Action Research. *The Journal of Educational Research*, 112(2), 123–136.
- Dawadi, S., Shrestha, S., & Giri, R. A. (2021). Mixed-methods research: A discussion on its types, challenges, and criticisms. *Journal of Practical Studies in Education*, 2(2), 25–36. doi:10.46809/jpse.v2i2.20
- de Bot, K. (2015). *A history of applied linguistics: From 1980 to the present*. Routledge. doi:10.4324/9781315743769
- De Fina, A. (2019). The ethnographic interview. In K. Tusting (Ed.), *The Routledge Handbook of Linguistic Ethnography* (pp. 154–167). Routledge. doi:10.4324/9781315675824-12
- Dechenaux, E., Kovenock, D., & Sheremeta, R. M. (2015). A survey of experimental research on contests, all-pay auctions and tournaments. *Experimental Economics*, 18(4), 609–669. doi:10.1007/s10683-014-9421-0
- DeCino, D. A., & Waalkes, P. L. (2019). Aligning epistemology with member checks. *International Journal of Research & Method in Education*, 42(4), 374–384. doi:10.1080/1743727X.2018.1492535
- Dekeyser, R., Alfi-Shabtay, I., & Ravid, D. (2010). Cross-linguistic evidence for the nature of age effects in second language acquisition. *Applied Psycholinguistics*, 31(3), 413–438. doi:10.1017/S0142716410000056
- Delice, A. (2010). The sampling issues in quantitative research. *Educational Sciences: Theory & Practice*, 10(4), 2001–2018.
- Denscombe, M. (2010). *The good research guide for small-scale research projects* (4, Ed.). Open University Press.
- Denzin, N. (1984). *The research act*. Prentice Hall.

- Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE handbook of qualitative research* (4th ed.). SAGE Publications.
- Denzin, N. K., & Lincoln, Y. S. (2017). *The Sage handbook of qualitative research* (5th ed.). Sage Publications.
- Derakhshan, A., & Nazari, M. (2023). "I am fed up with the criticisms": Examining the role of emotional critical incidents in a novice teacher's identity construction. *The Asia-Pacific Education Researcher*, 32(4), 449–458. doi:10.1007/s40299-022-00666-1
- DeVellis, R. F. (2016). *Scale development: Theory and applications* (4th ed.). Sage Publications.
- Dewalt, K. M., & Dewalt, B. R. (2010). *Participant observation: a guide for fieldworkers*. AltaMira Press.
- DeWalt, K. M., & DeWalt, B. R. (2011). *Participant observation: A guide for fieldworkers*. AltaMira Press.
- Dey, I. (1993). *Qualitative data analysis: A user-friendly guide for social scientists*. Routledge.
- Dooly, M., & Vinagre, M. (2022). Research into practice: Virtual exchange in language teaching and learning. *Language Teaching*, 55(3), 392–406. doi:10.1017/S0261444821000069
- Dörnyei, Z. (2007). *Research Methods in Applied Linguistics: Qualitative, Quantitative and Mixed Methodologies*. OUP.
- Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative and mixed methodologies*. Oxford University Press.
- Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies*. Oxford University Press.
- Dörnyei, Z. (2007). *Research Methods in Applied Linguistics: Quantitative, Qualitative, and Mixed Methodologies*. Oxford University Press.
- Dörnyei, Z., Kemmis, S., & McTaggart, R. (2005). *Action research for teachers*. Routledge.
- Downey, C. A., & Clandinin, D. J. (2020). Narrative inquiry as reflective practice: Tensions and possibilities. In D. J. Clandinin (Ed.), *Journeys in narrative inquiry* (pp. 130–146). Routledge.
- Drager, K. (2018). *Experimental research methods in sociolinguistics*. Bloomsbury Academic.
- Duarte, J., García-Jimenez, E., McMonagle, S., Hansen, A., Gross, B., Szelei, N., & Pinho, A. S. (2023). Research priorities in the field of multilingualism and language education: A cross-national examination. *Journal of Multilingual and Multicultural Development*, 44(1), 50–64. doi:10.1080/01434632.2020.1792475
- Duff, P. A. (2008). *Case study research in applied linguistics*. Lawrence Erlbaum Associates.
- Duff, P. A. (2012). Second language socialization. In A. Duranti, E. Ochs, & B. B. Schieffelin (Eds.), (pp. 564–586). Wiley-Blackwell.
- Duff, P. A. (2014). Case study research on language learning and use. *Annual Review of Applied Linguistics*, 34, 233–255. doi:10.1017/S0267190514000051
- Duff, P. A. (2019). Case study research: Making language learning complexities visible. In *The Routledge handbook of research methods in applied linguistics* (pp. 144–153). Routledge. doi:10.4324/9780367824471-13
- Duncombe, J., & Jessop, J. (2012). "Doing rapport" and the ethics of "faking friendship". In Miller, T., Birch, M., Mauthner, M., & Jessop, J. (2nd eds.). *Ethics in qualitative research*. Sage.

Compilation of References

- Dwyer, R., & Emerald, E. (2017). Narrative research in practice: Navigating the terrain. In R. Dwyer, I. Davis, & E. Emerald (Eds.), *Narrative research in practice: Stories from the field* (pp. 1-26). Springer. doi:10.1007/978-981-10-1579-3_1
- East, M. (2016). *Assessing foreign language students' spoken proficiency: Stakeholder perspectives on assessment innovation*. Springer. doi:10.1007/978-981-10-0303-5
- Easton, K. L., McComish, J. F., & Greenberg, R. (2000). Avoiding common pitfalls in qualitative data collection and transcription. *Qualitative Health Research*, 10(5), 703–707. doi:10.1177/104973200129118651 PMID:11066874
- Effiong, O. (2016). Getting them speaking: Classroom social factors and foreign language anxiety. *TESOL Journal*, 7(1), 132–161. doi:10.1002/tesj.194
- Efron, S. (2013). *Action research in education: A practical guide*. Routledge.
- Ejnavarzala, H. (2019). Epistemology–Ontology Relations in Social Research: A Review. *Sociological Bulletin*, 68(1), 94–104. doi:10.1177/0038022918819369
- Elliott, J. (1991). *Action Research for Educational Change*. Open University Press.
- Elliott, J. (2005). *Using narrative in social research: Qualitative and quantitative approaches*. Sage Publications. doi:10.4135/9780857020246
- Elliott, J. (2009). Building educational theory through action research. In S. Noffke & B. Somekh (Eds.), *The Sage Handbook of Educational Action Research. Revista de Educación de la Universidad de Málaga*, 3(3), 13-28.
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, 4(1), 1–10. doi:10.1177/2158244014522633
- Emerson, R. M., Fretz, R. I., & Shaw, L. L. (1995). *Writing ethnographic fieldnotes*. University of Chicago Press. doi:10.7208/chicago/9780226206851.001.0001
- Ercikan, K., & Roth, W. M. (2006). What Good Is Polarizing Research into Qualitative and Quantitative? *Educational Researcher*, 35(5), 14–23. <https://www.jstor.org/stable/3699783>. doi:10.3102/0013189X035005014
- Erickson, F. (1986). Qualitative methods in research on teaching. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 119–161). Macmillan.
- Erickson, F. (2017). Qualitative methods: Histories in social and educational research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE Handbook of Qualitative Research* (pp. 96–130). SAGE Publications.
- Eriksson, P., & Kovalainen, A. (2008). *Qualitative methods in business research*. SAGE Publications Ltd. doi:10.4135/9780857028044
- Escueta, M., Nickow, A. J., Oreopoulos, P., & Quan, V. (2020). Upgrading education with technology: Insights from experimental research. *Journal of Economic Literature*, 58(4), 897–996. doi:10.1257/jel.20191507
- Etikan, I., Alkassim, R., & Abubakar, S. (2016). Comparison of snowball sampling and sequential sampling technique. *Biometrics and Biostatistics International Journal*, 3(1), 55. doi:10.15406/bbij.2016.03.00055
- Faez, F., Martini, J., & Pavia, N. (2022). Research methods in applied linguistics and language education: Current considerations, recent innovations, and future directions. *ELT Journal*, 76(2), 276–296. doi:10.1093/elt/ccab091
- Fairclough, N. (2010). *Critical discourse analysis: the critical study of language* (2nd ed.). Routledge., doi:10.4324/9781315834368

- Fang, W.-C., Yeh, H.-C., Luo, B.-R., & Chen, N.-S. (2021). Effects of mobile-supported task-based language teaching on EFL students' linguistic achievement and conversational interaction. *ReCALL*, 33(1), 71–87. doi:10.1017/S0958344020000208
- Fasani, M. A., Babaii, E., Beikmohammadi, M., & Farsani, M. B. (2022). Mixed-methods research proficiency for applied linguists: A PLS-path modelling approach. *Quality & Quantity*, 56(5), 3337–3362. doi:10.1007/s11135-021-01268-7
- Fetterman, D. M. (2010). *Ethnography: Step-by-step*. Sage (Atlanta, Ga.).
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. SAGE Publications.
- Fink, A. (2014). *Conducting research literature reviews: From the internet to paper*. SAGE Publications.
- Finlay, L. (2002). Negotiating the swamp: The opportunity and challenge of reflexivity in research practice. *Qualitative Research*, 2(2), 209–230. doi:10.1177/146879410200200205
- Fitch, W. T. (2016). Sound and meaning in the world's languages. *Nature*, 539(7627), 39–40. doi:10.1038/nature20474 PMID:27783601
- Fitch, W. T. (2017). Empirical approaches to the study of language evolution. *Psychonomic Bulletin & Review*, 24(1), 3–33. doi:10.3758/s13423-017-1236-5 PMID:28150125
- Flick, U. (2018). Triangulation in data collection. In U. Flick (Ed.), *The Sage handbook of qualitative data collection* (pp. 527–544). Sage. doi:10.4135/9781526416070.n34
- Flick, U. (Ed.). (2022). *The Sage handbook of qualitative research design*. Sage. doi:10.4135/9781529770278
- Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), 219–245. doi:10.1177/1077800405284363
- Flyvbjerg, B. (2011). *Case study*. *The Sage handbook of qualitative research*, 4, 301–316. Sage.
- Fox, S., & Macleod, A. (2021). Localizing the SDGs in cities: Reflections from an action research project in Bristol, UK. *Urban Geography*, 44(3), 517–537. doi:10.1080/02723638.2021.1953286
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). McGraw-Hill Humanities.
- Gagnon, M. (2010). Qualitative research methods in second language acquisition. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (Vol. 2, pp. 11–29). Routledge.
- Gao, Y. (2021). How do language learning, teaching, and transnational experiences (re)shape an EFLer's identities? A critical ethnographic narrative. *SAGE Open*, 11(3). Advance online publication. doi:10.1177/21582440211031211
- Gass, S. (2015). Experimental research. In B. Paltridge & A. Phakiti (Eds.), *Research methods in applied linguistics – A practical resource* (pp. 88–99). Bloomsbury Academic.
- Gass, S. M. (1997). *Input, interaction, and the second language learner*. Routledge. doi:10.4324/9780203053560
- Gay, L. R., Mills, G. E., & Airasian, P. (2012). *Educational eesearch: Competencies for analysis and applications*. Pearson.
- Genç, C. Y. (2023). Exploring the multifaceted dimensions of second language acquisition: Universal influences, individual factors, and sociocultural context. *International Journal of Formal Education*, 2(12), 256–269.
- Gentles, S. J., Charles, C., Ploeg, J., & McKibbin, K. A. (2015). Sampling in qualitative research: Insights from an overview of the methods literature. *The Qualitative Report*, 20(11), 1772–1789. doi:10.46743/2160-3715/2015.2373

Compilation of References

- Ghorbani, M., Eskandari-Damaneh, H., Cotton, M., Ghoochani, O. M., & Borji, M. (2021). Harnessing indigenous knowledge for climate change-resilient water management – lessons from an ethnographic case study in Iran. *Climate and Development, 13*(9), 766–779. doi:10.1080/17565529.2020.1841601
- Gkonou, C., & Miller, E. R. (2020). ‘Critical incidents’ in language teachers’ narratives of emotional experience. In C. Gkonou, J.-M. Dewaele, & J. King (Eds.), *The emotional rollercoaster of language teaching* (pp. 131–149). Multilingual Matters. doi:10.21832/9781788928342-012
- Glesne, C., & Peshkin, A. (1992). *Becoming qualitative researchers: an introduction*. Longman.
- Gomez, R., & Lee, S. (2019). Cultivating Shared Learning and Innovation Through Action Research in EFL Teaching. *Journal of Educational Collaboration, 8*(4), 67–79.
- Gomez, R., & Lee, S. (2020). Reflections on a New Action Research Program for University EFL Teachers. *International Journal of Language Education, 18*(3), 56–67.
- Gonzalez-Marquez, M., Mittelberg, I., Coulson, S., & Spivey, M. J. (2003). An introduction to experimental methods for language researchers. In M. Gonzalez-Marquez, I. Mittelberg, S. Coulson, & M. J. Spivey (Eds.), *Methods in cognitive linguistics* (pp. 53–86). John Benjamins Publishing Company.
- Goo, J. (2012). Corrective feedback and working memory capacity in interaction-driven L2 learning. *Studies in Second Language Acquisition, 34*(3), 445–474. doi:10.1017/S0272263112000149
- Gough, B. (2017). Reflexivity in qualitative psychological research. *The Journal of Positive Psychology, 12*(3), 311–312. doi:10.1080/17439760.2016.1262615
- Grabe, W. (2010). Applied linguistics: A twenty-first-century discipline. In R. B. Kaplan (Ed.), *The Oxford handbook of applied linguistics* (pp. 34–44). Oxford University Press.
- Grabe, W., & Yamashita, J. (2022). *Reading in a Second Language* (2nd ed.). Cambridge University Press. doi:10.1017/9781108878944
- Graham, A. P., Phelps, R. A., Ha, T. T. N., & Geeves, R. (2014). Researching with children in Vietnam: Cultural, methodological and ethical considerations. *Qualitative Research, 14*(1), 37–60. doi:10.1177/1468794112455038
- Granberg, C., Palm, T., & Palmberg, B. (2021). A case study of a formative assessment practice and the effects on students’ self-regulated learning. *Studies in Educational Evaluation, 68*, 100955. doi:10.1016/j.stueduc.2020.100955
- Gray, C. D., & Kinnear, P. R. (2011). *IBM SPSS statistics 19 made simple*. Psychology Press.
- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a Conceptual Framework for Mixed-Method Evaluation Designs. *Educational Evaluation and Policy Analysis, 11*(3), 255–274. doi:10.3102/01623737011003255
- Greenier, V., & Moodie, I. (2021). Photo-narrative frames: Using visuals with narrative research in applied linguistics. *System, 102*, 1–12. doi:10.1016/j.system.2021.102597
- Gross, J. (2018). Document analysis. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (5th ed., pp. 473–490). Sage Publications.
- Guba, E. G. (1990). *The paradigm dialog*. SAGE Publications.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105–117). SAGE Publications.

- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *The handbook of qualitative research* (pp. 105–117). Sage.
- Guba, E. G., & Lincoln, Y. S. (2005). Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 191–215). Sage.
- Guglielmin, M., Shankardass, K., Bayoumi, A. M., O'Campo, P., Kokkinen, L., & Muntaner, C. (2022). A realist explanatory case study investigating how common goals, leadership, and committed staff facilitate health in all policies implementation in the municipality of Kuopio, Finland. *International Journal of Health Policy and Management*. doi:10.34172/ijhpm.2022.6355 PMID:35247936
- Gustafsson, J. (2017). *Single case studies vs. multiple case studies: A comparative study*.
- Hagedorn, L. S. (1983). The constructivist approach to counseling: Theoretical bases and practical applications. *Person-Centered Review*, 2(3), 257–277.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2021). *Multivariate data analysis* (9th ed.). Cengage Learning.
- Halinen, A., & Törnroos, J. (2005). Using case methods in the study of contemporary business networks. *Journal of Business Research*, 58(9), 1285–1297. doi:10.1016/j.jbusres.2004.02.001
- Hall, C. J., Smith, P. H., & Wicaksono, R. (2017). *Mapping Applied Linguistics. A Guide for Students and Practitioners* (2nd ed.). Routledge. doi:10.4324/9781315226286
- Halliday, M. K., & Matthiessen, M. M. (2014). *Halliday's introduction to functional grammar*. Routledge. doi:10.4324/9780203783771
- Hall, T., Lashua, B., & Coffey, A. (2008). Sound and the everyday in qualitative research. *Qualitative Inquiry*, 14(6), 1019–1040. doi:10.1177/1077800407312054
- Halquist, D., & Musanti, S. I. (2010). Critical incidents and reflection: Turning points that challenge the researcher and create opportunities for knowing. *International Journal of Qualitative Studies in Education : QSE*, 23(4), 449–461. doi:10.1080/09518398.2010.492811
- Hammersley, M. (1995). Theory and evidence in qualitative research. *Quality & Quantity*, 29(1), 55–66. doi:10.1007/BF01107983
- Hammersley, M., & Atkinson, P. (2007). *Ethnography: Principles in Practice*. Routledge.
- Hanson, B. (2015). Objectivities: Constructivist roots of positivism. *Quality & Quantity*, 49(2), 857–865. doi:10.1007/s11135-014-0027-6
- Harklau, L. (2005). Ethnography and ethnographic research on second language teaching and learning. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (pp. 179–194). Routledge., doi:10.4324/9781410612700
- Hartas, D. (2010). *Educational Research and Inquiry: Qualitative and Quantitative Approaches*. Bloomsbury. doi:10.5040/9781474243834
- Hart, C. (2018). *Doing a Literature Review: Releasing the Social Science Research Imagination*. SAGE Publications.
- HassanA. (2023). Developing an ESP-Based Language Learning Environment to Help Students Improve Critical Thinking Skills in Written Output. SSRN.
- Haven, T., & van Grootel, L. (2019). Preregistering qualitative research. *Accountability in Research*, 26(3), 229–244. doi:10.1080/08989621.2019.1580147 PMID:30741570

Compilation of References

- Hawamdeh, M., & Soykan, E. (2021). Systematic analysis of effectiveness of using Mobile Technologies (MT) in teaching and learning foreign language. *Online Journal of Communication and Media Technologies*, 11(4), 1–12. doi:10.30935/ojcm/11256
- Hayes, D. (2010). Language learning, teaching and educational reform in rural Thailand: An English teacher's perspective. *Asia Pacific Journal of Education*, 30(3), 305–309. doi:10.1080/02188791.2010.495843
- Heath, C. (1983). *Ways with words: Language, life, and work in communities and classrooms*. Cambridge University Press. doi:10.1017/CBO9780511841057
- Heigham, J., & Croker, R. (2009). *Qualitative research in applied linguistics: A practical introduction* (1st ed.). doi:10.1057/9780230239517
- Hempel, S. (2020). *Conducting Your Literature Review*. The American Psychological Association., doi:10.1037/0000155-000
- Hennink, M., Hutter, I., & Bailey, A. (2020). *Qualitative research methods* (2nd ed.). Sage.
- Henry, A., & Thorsén, C. (2018). Teacher–student relationships and l2 motivation. *Modern Language Journal*, 102(1), 218–241. doi:10.1111/modl.12446
- Herzog, H. (2005). On home turf: Interview location and its social meaning. *Qualitative Sociology*, 28(1), 25–47. doi:10.1007/s11133-005-2629-8
- Hesse-Biber, S. N., & Leavy, P. (2011). The practice of qualitative research. *Sage (Atlanta, Ga.)*.
- Heyl, B. S. (2007). Ethnographic interviewing. In P. Atkinson, A. Coffey, Sara Delamont, J. Lofland, & L. Lofland (Eds.), *Handbook of ethnography* (pp. 369–383). SAGE.
- Heyl, B. S. (2001). Interviewing: A data collection technique. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 365–375). SAGE Publications.
- Higgins, R., Murphy, F., & Hogg, P. (2021). The impact of teaching experimental research on-line: Research-informed teaching and COVID-19. *Radiography*, 27(2), 539–545. doi:10.1016/j.radi.2020.11.014 PMID:33262051
- Hine, C. (2000). *Virtual ethnography*. SAGE Publications. doi:10.4135/9780857020277
- Hiratsuka, T. (2014). A study into how high school students learn using narrative frames. *ELT Journal*, 68(2), 169–178. doi:10.1093/elt/cct096
- Hitchcock, G., & Hughes, D. (1995). *Research and the Teacher* (2nd ed.). Routledge.
- Hoang, V. Q., & Bui, H. P. (2023). Encouraging EFL students' willingness to communicate inside Vietnamese high school classrooms: Teachers' strategies and students' beliefs. *Applied Research on English Language*, 12(2), 19–44.
- Holliday, A. (2016). *Doing & writing qualitative research*. Sage Publications., doi:10.4135/9781446287958
- Holliday, A. (2016). *Doing and Writing Qualitative Research*. SAGE Publications.
- Holloway, I., & Todres, L. (2003). The status of method: Flexibility, consistency and coherence. *Qualitative Research*, 3(3), 345–357. doi:10.1177/1468794103033004
- Hornberger, N. H. (2005). Frameworks and models in language policy and planning. In T. Ricento (Ed.), *An introduction to language policy: Theory and method* (pp. 24–41). Wiley-Blackwell.

- Hornberger, N. H., & McKay, S. L. (2010). *Sociolinguistics and Language Education*. Multilingual Matters. doi:10.21832/9781847692849
- Howitt, D., & Cramer, D. (2020). *Research methods in psychology*. Pearson.
- Hudry, J. L. (2015). Aristotle on language and universal proof. In A. Koslow & A. Buchsbaum (Eds.), *The road to universal logic. Studies in universal logic*. Springer. doi:10.1007/978-3-319-10193-4_11
- Hung, B. P. (2019). A Cognitive linguistic approach to teaching English idioms to EFL students: Experimental results. *3L: Language, Linguistics. Literature*, 25(2), 113–126. doi:10.17576/3L-2019-2502-09
- Hunter, S. V. (2010). Analysing and representing narrative data: The long and winding road. *Current Narratives*, 1(2), 44–54.
- Hymes, D. (1964). Introduction: Toward ethnographies of communication. *American Anthropologist*, 66(6), 1–34. <https://www.jstor.org/stable/668159>. doi:10.1525/aa.1964.66.suppl_3.02a00010
- Hymes, D. (1996). *Ethnography, linguistics, narrative inequality: Toward an understanding of voice*. Routledge.
- Ikeda, K., & Chikamatsu, N. (2023). *Transcending borders and limitations with digitally enhanced pedagogy. A Transdisciplinary Approach to Chinese and Japanese Language Teaching: Collaborative Pedagogy Across Languages. Disciplines, Communities, and Borders*.
- Inna, H., Ihor, K., Olena, S., Oleksiy, T., & Natalia, T. (2021). Experimental research of oscillation parameters of vibrating-rotor crusher. *Przegląd Elektrotechniczny*, 3(3), 97–100. doi:10.15199/48.2021.03.19
- Iphofen, R. (2020). *Handbook of research ethics and scientific integrity*. Springer Cham. doi:10.1007/978-3-030-16759-2
- Isaacs, T., & Chalmers, H. (2023). Reducing ‘avoidable research waste’ in applied linguistics research: Insights from healthcare research. *Language Teaching*, 1–18. doi:10.1017/S0261444823000411
- Isac, D., & Reiss, C. (2013). *I-Language: An introduction to linguistics as cognitive science*. Oxford University Press.
- Ivankova, N. L., & Greer, J. L. (2015). Mixed methods Research and Analysis. In B. Paltridge & A. Phakiti (Eds.), *Research Methods in Applied Linguistics: A Practical Resource* (pp. 60–74). Bloomsbury.
- Ivey, C., & Crum, J. (2018). Choosing the Right Citation Management Tool: Endnote, Mendeley, RefWorks, or Zotero. *Journal of the Medical Library Association: JMLA*, 106(3), 399–403. doi:10.5195/jmla.2018.468
- Jackson, J. (2015). Ethnography. In Z. Hua (Ed.), *Research methods in intercultural communication: A practical guide* (pp. 239–254). John Wiley & Sons Inc., doi:10.1002/9781119166283.ch16
- Jeblick, K., Schachtner, B., Dextl, J., Mittermeier, A., Stüber, A. T., Topalis, J., Weber, T., Wesp, P., Sabel, B. O., Ricke, J., & Ingrisch, M. (2023). Chatgpt makes medicine easy to swallow: An exploratory case study on simplified radiology reports. *European Radiology*. Advance online publication. doi:10.1007/s00330-023-10213-1 PMID:37794249
- Jeong, H., Li, P., Suzuki, W., Sugiura, M., & Kawashima, R. (2021). Neural mechanisms of language learning from social contexts. *Brain and Language*, 212(104874), 104874. doi:10.1016/j.bandl.2020.104874 PMID:33220647
- Jixing, L., & Shiyi, Z. (2019). Trends of qualitative research in applied linguistics since the new millennium. *Canadian Social Science*, 5(7), 11–14. doi:10.3968/11200
- Joffe, H. (2011). Thematic analysis. In D. Harper & A. R. Thompson (Eds.), *Qualitative research methods in mental health and psychotherapy: A guide for students and practitioners* (pp. 209–223). Wiley. doi:10.1002/9781119973249.ch15

Compilation of References

- Johnson, B., & Christensen, L. (2017). *Educational Research: Qualitative, Quantitative and Mixed Approaches* (6th ed.). Sage.
- Johnson, C., & Williams, D. (2020). The Intricacies of Data Collection and Analysis in Action Research. *Journal of Educational Psychology, 112*(2), 183–196.
- Johnson, K. E. (2009). *Second language teacher education: A Sociocultural perspective*. Routledge. doi:10.4324/9780203878033
- Johnson, M. (2021). Practical Challenges and Preferences in Action Research: A Comparative Analysis Across Educational Levels. *Teaching and Learning Journal, 30*(1), 210–223.
- Johnson, M. (2021). Scalability and Applicability of Action Research. *Journal of Research in Education, 37*(3), 247–262.
- JohnsonM.LeeK. (2019).
- Johnson, R. (2020). *Educational research methods: A comprehensive guide*. Pearson.
- Johnson, R. B., & Christensen, L. (2019). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage Publications.
- Josselson, R. (2011). Narrative research: Constructing, deconstructing, and reconstructing story. In K. Charmaz, L. M. McMullen, R. Josselson, R. Anderson, & E. McSpadden (Eds.), *Five ways of doing qualitative analysis* (pp. 224–242). The Guilford Press.
- Kähkönen, A. (2014). Conducting a case study in supply management. *Operations and Supply Chain Management: An International Journal, 31*–41.
- Kaiser, E. (2014). Experimental paradigms in psycholinguistics. In R. J. Podesva & D. Sharma (Eds.), *Research methods in linguistics* (pp. 135–168). Cambridge University Press. doi:10.1017/CBO9781139013734.009
- Kalaja, P., Dufva, H., & Alanen, R. (2013). Experimenting with visual narratives. In G. Barkhuizen (Ed.), *Narrative research in applied linguistics* (pp. 105–131). Cambridge University Press.
- Kanno, Y. (2003). *Negotiating Bilingual and Bicultural Identities: Japanese Returnees Betwixt Two Worlds*. Lawrence Erlbaum Associates. doi:10.4324/9781410607560
- Kanno, Y., & Norton, B. (2003). Imagined communities and educational possibilities: Introduction. *Journal of Language, Identity, and Education, 2*(4), 241–249. doi:10.1207/S15327701JLIE0204_1
- Kearney, S. (2019). The challenges of beginning teacher induction: A collective case study. *Teaching Education, 32*(2), 142–158. doi:10.1080/10476210.2019.1679109
- Kemmis, S., & McTaggart, R. (1988). *The Action Research Planner*. Deakin University Press.
- Kemmis, S., & McTaggart, R. (2000). *Participatory action research*. Falmer Press.
- Kennedy, B. L., & Thornberg, R. (2017). Deduction, induction, and abduction. In U. Flick (Ed.), *The Sage handbook of qualitative data collection* (pp. 49–64). Sage.
- Ke, P. (2019). *Contrastive Linguistics*. Springer.
- Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of behavioral research*. Cengage Learning.
- Khan, I. U., Ali, A., & Bibi, S. A. (2023). Monoglot ideologies in multilingual ecologies: Case study of language-in-education policies in India and Indonesia. *UMT Education Review, 6*(1), 63–80. doi:10.32350/10.32350/uer.61.04

- Khany, R., & Tazik, K. (2017). 40 Years of applied linguistics: Investigating content areas, research methods, and statistical techniques. *Canadian Journal of Applied Linguistics*, 40(3), 316–332.
- Khoa, B. T., Hung, B. P., & Brahmi, M. (2023). Qualitative research in social sciences: Data collection, data analysis and report writing. *International Journal of Public Sector Performance Management*, 12(1/2), 187–209. doi:10.1504/IJSPM.2023.132247
- Kiger, M. E., & Varpio, L. (2020). Thematic analysis of qualitative data: AMEE guide no. 131. *Medical Teacher*, 42(8), 846–854. doi:10.1080/0142159X.2020.1755030 PMID:32356468
- Kim, J., & Patel, S. (2022). Personalized Professional Development in EFL Teaching: The Role of Action Research. *Language Teaching and Learning Journal*, 30(1), 210–225.
- Kirkham, E. (2018). *Study: Here's How Much College Credits Actually Cost*.
- Kirk, J., & Miller, M. L. (1986). *Reliability and validity in qualitative research*. SAGE Publications., doi:10.4135/9781412985659
- Kirk, R. E. (2009). Experimental design. In R. E. Millsap & A. Maydeu-Olivares (Eds.), *The SAGE handbook of quantitative methods in psychology* (pp. 23–45). SAGE Publications Ltd., doi:10.4135/9780857020994.n2
- Kirk, R. E. (2012). *Experimental design-procedures for the behavioral Sciences*. Sage Publication, Inc.
- Kivi, J. P., Namaziandost, E., Alamdari, E. F., Saenco, N. R., Inga-Arias, M., Fuster-Guillén, D., Sirisakpanich, D., & Nasirin, C. (2021). The comparative effects of teacher versus peer-scaffolding on EFL learners' incidental vocabulary learning and reading comprehension: A sociocultural perspective. *Journal of Psycholinguistic Research*, 50(5), 1031–1047. doi:10.1007/s10936-021-09800-4 PMID:34312773
- Koro-Ljungberg, M., Yendol-Hoppey, D., Smith, J. J., & Hayes, S. B. (2009). (E)pistemological awareness, instantiation of methods, and uninformed methodological ambiguity in qualitative research projects. *Educational Researcher*, 38(9), 687–699. doi:10.3102/0013189X09351980
- Kostova, I. (2017). Thick description. In B. S. Turner (Ed.), *The Wiley-Blackwell encyclopedia of social theory* (pp. 1–2). Wiley.
- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.
- Kowal, S., & O'Connell, D. C. (2014). Transcription as a crucial step of data analysis. In U. Flick (Ed.), *The Sage handbook of qualitative data analysis* (pp. 64–78). Sage. doi:10.4135/9781446282243.n5
- Kozinets, R. (2009). *Netnography: Doing ethnographic research online*. SAGE Publications Ltd.
- Kramsch, C. (2006). From communicative competence to symbolic competence. *Modern Language Journal*, 90(2), 249–252. doi:10.1111/j.1540-4781.2006.00395_3.x
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. doi:10.1177/001316447003000308
- Kubanyiova, M. (2008). Rethinking research ethics in contemporary applied linguistics: The tension between macroethical and microethical perspectives in situated research. *Modern Language Journal*, 92(4), 503–518. doi:10.1111/j.1540-4781.2008.00784.x
- Kumaravadivelu, B. (2006). *Understanding language teaching from method to postmethod*. Lawrence Erlbaum Associates. doi:10.4324/9781410615725

Compilation of References

- Kumar, R. (2011). *Research methodology: A step-by-step guide for beginners* (3rd ed.). SAGE Publication.
- Kusumaningrum, W. R. (2018). Pre-service teachers' perception of teaching future EFL students: A micro-ethnography approach. *Journal of Language Teaching and Research*, 9(1), 74–79. doi:10.17507/jltr.0901.09
- Kwame Harrison, A. (2018). *Ethnography*. Oxford University Press. doi:10.1093/oso/9780199371785.001.0001
- Lai, C. (2019). Technology and learner autonomy: An argument in favor of the nexus of formal and informal language learning. *Annual Review of Applied Linguistics*, 39, 52–58. doi:10.1017/S0267190519000035
- Lather, P. (1991). *Getting smart: feminist research and pedagogy within/in the postmodern*. Routledge. doi:10.4324/9780203451311
- Lather, P. (1993). Fertile obsession: Validity after poststructuralism. *The Sociological Quarterly*, 34(4), 673–693. doi:10.1111/j.1533-8525.1993.tb00112.x
- Leavy, P. (2020). Introduction to the Oxford handbook of qualitative research. In P. Leavy (Ed.), *The Oxford handbook of qualitative research* (pp. 1–20). Oxford University Press. doi:10.1093/oxfordhb/9780190847388.013.9
- Ledyard, J. O. (1995). Public goods: A survey of experimental research. In J. H. Kagel & A. E. Roth (Eds.), *The handbook of experimental economics* (pp. 94–111). Princeton University Press.
- Lee, J. S., & Lee, K. (2021). The role of informal digital learning of English and L2 motivational self system in foreign language enjoyment. *British Journal of Educational Technology*, 52(1), 358–373. doi:10.1111/bjet.12955
- Lee, J. S., Yeung, N. M., & Osburn, M. B. (2022). Foreign language enjoyment as a mediator between informal digital learning of English and willingness to communicate: A sample of Hong Kong EFL secondary students. *Journal of Multilingual and Multicultural Development*, 1–19. doi:10.1080/01434632.2022.2112587
- Lefstein, A., & Snell, J. (2019). Linguistic ethnographic analysis of classroom dialogue. In N. Mercer, R. Wegerif, & L. Major (Eds.), *The Routledge international handbook of research on dialogic education* (pp. 63–75). Routledge. doi:10.4324/9780429441677-7
- Léger, M., Laroche, A., & Pruneau, D. (2020). Exploring the use of design thinking as a strategy for environmental problem-solving in post-secondary civil engineering students. *INTED Proceedings*, 921. doi:10.21125/inted.2020.0329
- Le, H. H. B., & Bui, H. P. (2021). Mediation of digital tools in English learning. *Language Education and Acquisition Research Network*, 14(2), 512–528.
- Le, M. D., Nguyen, H. T. M., & Burns, A. (2021). English primary teacher agency in implementing teaching methods in response to language policy reform: A Vietnamese case study. *Current Issues in Language Planning*, 22(1-2), 199–224. doi:10.1080/14664208.2020.1741209
- Leonard, J. (2011). Using Bronfenbrenner's ecological theory to understand community partnerships. *Urban Education*, 46(5), 987–1010. doi:10.1177/0042085911400337
- Leppink, J. (2019). *Statistical methods for experimental research in education and psychology*. Springer Cham. doi:10.1007/978-3-030-21241-4
- Levy, P. S., & Lemeshow, S. (2013). *Sampling of populations: methods and applications*. John Wiley & Sons.
- Lewin, K. (1946). Frontiers in group dynamics: Concept, method, and reality in human relations. *Human Relations*, 1(1), 5–41. doi:10.1177/001872674700100103

- Lew, S., Yang, A. H., & Harklau, L. (2018). Qualitative methodology. In A. Phakiti, P. De Costa, L. Plonsky, & S. Starfield (Eds.), *The Palgrave handbook of applied linguistics research methodology* (pp. 79–101). Palgrave Macmillan. doi:10.1057/978-1-137-59900-1_4
- Li, S. (2018). Corrective feedback in L2 speech production. In *The TESOL encyclopedia of English language teaching* (pp. 1-9). doi:10.1002/9781118784235.eelt0247
- Liang, W. (2021). University teachers' technology integration in teaching English as a foreign language: Evidence from a case study in mainland China. *SN Social Sciences*, 1(219), 1–29. doi:10.1007/s43545-021-00223-5 PMID:34693336
- Li, C., & Dewaele, J. M. (2020). The predictive effects of trait emotional intelligence and online learning achievement perceptions on foreign language class boredom among Chinese university students. *Foreign Languages and Foreign Language Teaching*, 5, 33–44.
- Liebman-Kleine, J. (1987). Teaching and researching invention: Using ethnography in ESL writing classes. *ELT Journal*, 41(2), 104–111. doi:10.1093/elt/41.2.104
- Liebow, E. (1967). *Tally's corner: A study of Negro streetcorner men*. Little, Brown and Company.
- Light, D. (2010). The final stage? Writing up ethnographic research. In J. Scott-Jones & S. Watt (Eds.), *Ethnography in social science practice* (pp. 339–363). Routledge.
- Lin, A. (2014). Critical discourse analysis in applied linguistics: A methodological review. *Annual Review of Applied Linguistics*, 34, 213–232. doi:10.1017/S0267190514000087
- Lincoln, Y. S. (1995). Emerging criteria for quality in qualitative and interpretive research. *Qualitative Inquiry*, 1(3), 275–289. doi:10.1177/107780049500100301
- Lincoln, Y. S., & Guba, E. G. (Eds.). (1985). *Naturalistic Inquiry*. Sage. doi:10.1016/0147-1767(85)90062-8
- Liu, G., & Darvin, R. (2024). From rural China to the digital wilds: Negotiating digital repertoires to claim the right to speak. *TESOL Quarterly*, 58(1), 334–362. doi:10.1002/tesq.3233
- Liu, G., & Ma, C. (2023). Measuring EFL learners' use of Chat GPT in informal digital learning of English based on the technology acceptance model. *Innovation in Language Learning and Teaching*, ●●●, 1–14.
- Liu, Y., & Li, X. (2023). A narrative inquiry of transnational language teachers' professional identity construction. *Journal of Language, Identity, and Education*, 1–18. doi:10.1080/15348458.2022.2160332
- Li, X., Cheng, G., Liu, S., Xiao, Q., Ma, M., Jin, R., Che, T., Liu, Q., Wang, W., Qi, Y., Wen, J., Li, H., Zhu, G., Guo, J., Ran, Y., Wang, S., Zhu, Z., Zhou, J., Hu, X., & Xu, Z. (2013). Heihe watershed allied telemetry experimental research (HiWATER): Scientific objectives and experimental design. *Bulletin of the American Meteorological Society*, 94(8), 1145–1160. doi:10.1175/BAMS-D-12-00154.1
- Loewen, S. (2015). *Introduction to instructed second language acquisition*. Routledge.
- Loewen, S., & Plonsky, L. (2015). *An A–Z of applied linguistics research methods*. Bloomsbury Publishing.
- Loewen, S., & Sato, M. (2018). Interaction and instructed second language acquisition. *Language Teaching*, 51(3), 285–329. doi:10.1017/S0261444818000125
- Long, M. H. (1980). *Input, interaction, and second language acquisition*. University of California.
- Long, M. H. (1981). Input, interaction, and second language acquisition. *Annals of the New York Academy of Sciences*, 379(1), 259–278. doi:10.1111/j.1749-6632.1981.tb42014.x

Compilation of References

- Long, M. H. (1983). Native speaker/non-native speaker conversation and the negotiation of comprehensible input. *Applied Linguistics*, 4(2), 126–141. doi:10.1093/applin/4.2.126
- Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie & T. K. Bhatia (Eds.), *Handbook of research on language acquisition* (pp. 413–468). Academic Press. doi:10.1016/B978-012589042-7/50015-3
- Long, M. H. (2017). Instructed second language acquisition (ISLA): Geopolitics, methodological issues, and some major research questions. *Instructed Second Language Acquisition*, 1(1), 7–44. doi:10.1558/isla.33314
- Lundberg, A., Frascini, N., & Aliani, R. (2023). What is subjectivity? Scholarly perspectives on the elephant in the room. *Quality & Quantity*, 57(5), 4509–4529. doi:10.1007/s11135-022-01565-9
- Lütge, C., Merse, T., & Rauscher, P. (2023). *Global citizenship in foreign language education: Concepts, practices, connections*. Taylor & Francis.
- Lyster, R., Saito, K., & Sato, M. (2013). Oral corrective feedback in second language classrooms. *Language Teaching*, 46(1), 1–40. doi:10.1017/S0261444812000365
- Ma, L., Xu, X., & Tan, Y. (2024). Crafting Knowledge: Exploring the Creative Mechanisms of Chat-Based Search Engines. *SSRN Electronic Journal*. doi:10.2139/ssrn.4729503
- Mackey, A., & Gass, S. M. (2015). Input, interaction, and output in second language acquisition. In B. VanPatten & J. Williams (Eds.), *Theories in second language acquisition* (pp. 180–206). Routledge. doi:10.4324/9781315750606
- Mackey, A., & Gass, S. M. (2015). *Second language research: Methodology and design*. Routledge.
- Mackey, A., & Gass, S. M. (2021). *Second language research methodology and design*. Routledge. doi:10.4324/9781003188414
- Mahfoodh, O. H. A., & Pandian, A. (2011). A qualitative case study of EFL students' affective reactions to and perceptions of their teachers' written feedback. *English Language Teaching*, 4(3), 14–25. doi:10.5539/elt.v4n3p14
- Mahmood, R. Q. (2023). Enhancing EFL speaking and pronunciation skills: Using explicit formal instruction in a Kurdish university. *Issues in Educational Research*, 33(4), 1421–1440. <http://www.iier.org.au/iier33/mahmood-abs.html>
- Malterud, K. (2001). Qualitative research: Standards, challenges, and guidelines. *Lancet*, 358(9280), 483–488. doi:10.1016/S0140-6736(01)05627-6 PMID:11513933
- Mandasini, A. A. (2022). Research methodology as a calibrator for the validity of scientific research results. *Kontigensi: Scientific Journal of Management*, 11(1), 439–447. doi:10.56457/jimk.v10i2.389
- Mannay, D. (2016). *Visual, narrative and creative research methods: Application, reflection and ethics*. Routledge.
- Mansvelt, J., & Berg, L. D. (2021). Writing qualitative geographies: Constructing geographical knowledges. In I. Hay & M. Cope (Eds.), *Qualitative research methods in human geography*. Oxford University Press.
- Ma, Q. (2017). A multi-case study of university students' language-learning experience mediated by mobile technologies: A socio-cultural perspective. *Computer Assisted Language Learning*, 30(3-4), 183–203. doi:10.1080/09588221.2017.1301957
- Marcelina, S. R. D., & Wang, L. (2023). EFL Student's Perception of Teachers' Hybrid Teaching Style: A Case Study. *Journal of Applied Linguistics and English Education*, 1(1), 18–27. doi:10.36456/jalle.v1i1.7319

- Martín-Martín, A., Orduña-Malea, E., Harzing, A. W., & López-Cózar, E. D. (2017). Can we use Google Scholar to identify highly-cited documents? *Journal of Informetrics*, *11*(1), 152–163. doi:10.1016/j.joi.2016.11.008
- Mattila, A. S., Luo, A., Xue, X., & Ye, T. (2021). How to avoid common mistakes in experimental research? *International Journal of Contemporary Hospitality Management*, *33*(1), 367–374. doi:10.1108/IJCHM-07-2020-0696
- Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Educational Review*, *62*(3), 279–300. doi:10.17763/haer.62.3.8323320856251826
- Maxwell, J. A. (2012). *Qualitative research design: An interactive approach*. SAGE Publications.
- Maybin, J. (2006). *Children's voices: Talk, knowledge and identity*. Palgrave Macmillan London., doi:10.1057/9780230511958
- Mayring, P. (2000). Qualitative content analysis. *Forum Qualitative Social Research*, *1*(2), 1–10. doi:10.17169/fqs-1.2.1089
- May, T. (2011). *Social research: Issues, methods, and process*. Open University Press.
- McAllister, L., Whiteford, G., Hill, B., Thomas, N., & Fitzgerald, M. (2006). Reflection in intercultural learning: Examining the international experience through a critical incident approach. *Reflective Practice*, *7*(3), 367–381. doi:10.1080/14623940600837624
- McDonough, K. (2019). Experimental research methods. In S. Loewen & M. Sato (Eds.), *The Routledge handbook of instructed second language acquisition* (pp. 562–576). Routledge.
- McElvenny, J. (2018). August Schleicher and materialism in 19th-century linguistics. *Historiographia Linguistica*, *45*(1-2), 133–152. doi:10.1075/hl.00018.mce
- McKinley, J., Zhang, L. J., Elola, I., Hennebry-Leung, M., Zheng, Y., Greenier, V., Thomas, N., & Matzler, P. (2024). Fifty years of System research and projections for the future. *System*, *121*, 103210. doi:10.1016/j.system.2023.103210
- McLellan, E., MacQueen, K. M., & Neidig, J. L. (2003). Beyond the qualitative interview: Data preparation and transcription. *Field Methods*, *15*(1), 63–84. doi:10.1177/1525822X02239573
- Mcnamara, T. (2001). Language assessment as social practice: Challenges for research. *Language Testing*, *18*(4), 333–349. doi:10.1177/026553220101800402
- McNiff, J. (2013). *Action Research for Teachers*. Routledge. doi:10.4324/9780203112755
- McNiff, J., & Whitehead, J. (2006). *Action research: From theory to practice*. Sage Publications.
- Mellow, J. D. (2012). Time series. In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics* (pp. 1–5). Wiley-Blackwell., doi:10.1002/9781405198431.wbeal1216
- Meretoja, H. (2014). Narrative and human existence: Ontology, epistemology, and ethics. *New Literary History*, *45*(1), 89–109. doi:10.1353/nlh.2014.0001
- Merriam, S. B. (1985). The case study in educational research: A review of selected literature. *The Journal of Educational Thought (JET)/Revue de la Pensée Educative*.
- Merriam, S. B. (1998). *Qualitative Research and Case Study Applications in Education*. Jossey-Bass Publishers.
- Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. Jossey-Bass.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. Jossey-Bass.

Compilation of References

- Messick, S. (1989). Validity. In R. L. Linn (Ed.), *Educational measurement* (3rd ed.). American Council on Education and Macmillan.
- Miestamo, M., Bakker, D., & Arppe, A. (2016). Sampling for variety. *Linguistic Typology*, 20(2), 233–296. doi:10.1515/lingty-2016-0006
- Miksza, P., Shaw, J. T., Richerme, L. K., Hash, P. M., Hodges, D. A., & Parker, E. C. (2023). Considerations of quality in qualitative research. In P. Miksza, J. T. Shaw, L. K. Richerme, P. M. Hash, & D. A. Hodges (Eds.), *Music education research: an introduction* (pp. 217–240). Academic. doi:10.1093/oso/9780197639757.003.0011
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications, Inc.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE Publications.
- Milligan, I. (2022). *The Transformation of Historical Research in the Digital Age*. Cambridge University Press. doi:10.1017/9781009026055
- Mills, G. E. (2002). *Action Research: A Guide for the Teacher Researcher*. Prentice Hall.
- Mills, G. E., & Gay, L. R. (2018). *Educational research: Competencies for analysis and applications*. Pearson.
- Milon, M. R. K., Ishtiaq, M., Ali, T. M., & Imam, M. S. (2023). Unlocking fluency: Task-based language teaching (TBLT) in tertiary speaking classes - insights from Bangladeshi teachers and students. *International Center for Research and Resource Development*, 4(4), 218–230. doi:10.53272/icrrd.v4i4.11
- Mirhosseini, S.-A. (2020). *Doing qualitative research in language education*. Macmillan. doi:10.1007/978-3-030-56492-6
- Moed, H. F. (2006). *Citation analysis in research evaluation* (Vol. 9). Springer Science & Business Media.
- Moen, T. (2006). Reflections on the narrative research approach. *International Journal of Qualitative Methods*, 5(4), 56–69. doi:10.1177/160940690600500405
- Moriña, A. (2021). When people matter: The ethics of qualitative research in the health and social sciences. *Health & Social Care in the Community*, 29(5), 1559–1565. doi:10.1111/hsc.13221 PMID:33170531
- Mujico, F. G., & Lasagabaster, D. (2019). Enhancing L2 motivation and English proficiency through technology. *Complutense Journal of English Studies*, 27, 59–78. doi:10.5209/cjes.62990
- Nasrollahi, M. A., Krish, P., & Noor, N. M. (2012). Action research in language learning. *Procedia: Social and Behavioral Sciences*, 47, 1874–1879. doi:10.1016/j.sbspro.2012.06.916
- Nation, I. S. P. (2022). *Learning vocabulary in another language* (3rd ed.). Cambridge University Press. doi:10.1017/9781009093873
- Nejad, M. Z., Golshan, M., & Naeimi, A. (2021). The effect of synchronous and asynchronous computer-mediated communication (CMC) on learners' pronunciation achievement. *Cogent Psychology*, 8(1).
- Neumark, D. (2018). Experimental research on labor market discrimination. *Journal of Economic Literature*, 56(3), 799–866. doi:10.1257/jel.20161309
- Nguyen, H., & Smith, P. (2017). Empowering EFL Teachers as Agents of Change: Insights from Action Research. *Educational Development Journal*, 15(2), 88–101.

- Nieuwburg, E. G. I., Ploeger, A., & Kret, M. E. (2021). Emotion recognition in nonhuman primates: How experimental research can contribute to a better understanding of underlying mechanisms. *Neuroscience and Biobehavioral Reviews*, *123*, 24–47. doi:10.1016/j.neubiorev.2020.11.029 PMID:33453306
- Nimehchisalem, V. (2018). Exploring research methods in language learning-teaching studies. *Advances in Language and Literary Studies*, *9*(6), 27–33. doi:10.7575/aiac.all.v.9n.6p.27
- Noor, S., Tajik, O., & Golzar, J. (2022). Simple random sampling. *International Journal of Education & Language Studies*, *1*(2), 78–82. doi:10.22034/ijels.2022.162982
- Norton, B. (2000). *Identity and language learning: Gender, ethnicity and educational change*. Longman.
- Norton, B. (2000). *Identity and Language Learning: Gender, Ethnicity and Educational Change*. Longman.
- Norton, B. (2013). *Identity and language learning: extending the conversation*. Multilingual Matters. doi:10.21832/9781783090563
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, *16*(1), 1–13. doi:10.1177/1609406917733847
- Nunan, D. (1992). *Research methods in language learning*. Cambridge University Press.
- O'Reilly, K. (2009). *Key concepts in ethnography*. SAGE Publications Ltd. doi:10.4135/9781446268308
- Ochs, E., & Schieffelin, B. B. (2012). The theory of language socialization. In A. Duranti, E. Ochs, & B. B. Schieffelin (Eds.), *The handbook of language socialization* (pp. 1–21). Blackwell Publishing Limited., doi:10.1002/9781444342901.ch1
- Oglu, H. A. H. (2023). Task-Based Teaching, Learning, and Assessment in ELT: A Case Study of Innovative Practices. *International Journal of Philosophical Studies and Social Sciences*, *3*(5), 25–33.
- Ollerenshaw, J. A., & Creswell, J. W. (2002). Narrative research: A comparison of two restorying data analysis approaches. *Qualitative Inquiry*, *8*(3), 329–347. doi:10.1177/10778004008003008
- Oltmann, S. M. (2016). Qualitative interviews: A methodological discussion of the interviewer and respondent contexts. *Forum Qualitative Sozialforschung/Forum: Qualitative. Social Research*, *17*(2), 1–16.
- Onwuegbuzie, A. J., & Frels, R. (2016). *Seven Steps to a Comprehensive Literature Review*. SAGE Publication.
- Owens, D. C., Sadler, T. D., & Friedrichsen, P. (2019). Teaching practices for enactment of socio-scientific issues instruction: An instrumental case study of an experienced biology teacher. *Research in Science Education*, *51*(2), 375–398. doi:10.1007/s11165-018-9799-3
- Paltridge & A. Phakiti (Eds). (2015). *Research Methods in Applied Linguistics: A Practical Resource*. Bloomsbury.
- Paltridge, B. (2021). *Discourse analysis: An introduction*. Bloomsbury Publishing.
- Park, E., Caine, V., McConnell, D., & Minaker, J. (2016). Ethical tensions as educative spaces in narrative inquiry. *Forum Qualitative Sozialforschung/Forum: Qualitative. Social Research*, *17*(2), 1–19. doi:10.17169/fqs-17.2.2571
- Patton, M. Q. (2014). *Qualitative research & evaluation methods: Integrating theory and practice*. Sage publications.
- Pavlenko, A. (2001). Bilingualism and Emotions. *Multilingua*, *20*(1), 45–78. doi:10.1515/mult.2002.004
- Pavlenko, A. (2002). Narrative study: Whose story is it, anyway? *TESOL Quarterly*, *36*(2), 213–218. doi:10.2307/3588332

Compilation of References

- Pavlenko, A. (2007). Autobiographic narratives as data in applied linguistics. *Applied Linguistics*, 28(2), 163–188. doi:10.1093/applin/amm008
- Pearson, W. S. (2022). Student Engagement with Teacher Written Feedback on Rehearsal Essays Undertaken in Preparation for IELTS. *SAGE Open*, 12(1), 1–17. doi:10.1177/21582440221079842
- Pennycook, A. (2010). *Language as a local practice*. Routledge., doi:10.4324/9780203846223
- Penuel, W. R., Van Horne, K., DiGiacomo, D., & Kirshner, B. (2016). A social practice theory of learning and becoming across contexts and time. *Frontline Learning Research*, 4(4), 30–38. doi:10.14786/flr.v4i4.205
- Phakiti, A. (2015). *Experimental Research Methods in Language Learning*. Bloomsbury Academic.
- Phakiti, A. (2015). Quantitative research and analysis. In B. Paltridge & A. Phakiti (Eds.), *Research Methods in Applied Linguistics: A Practical Resource* (pp. 34–48). Bloomsbury.
- Phakiti, A., De Costa, P., Plonsky, L., & Starfield, S. (2018). Applied Linguistics Research: Current Issues, Methods, and Trends. In A. Phakiti, P. De Costa, L. Plonsky, & S. Starfield (Eds.), *The Palgrave Handbook of Applied Linguistics Research Methodology*. Palgrave Macmillan. doi:10.1057/978-1-137-59900-1_1
- Pham, C. H. (2021). English language education in rural areas: Current issues, complexities and ways forward. *VNU Journal of Science: Education Research*. doi:10.25073/2588-1159/vnuer.4538
- Pham, C. H. (2016). *An ecological perspective on the motivational trajectories of high school students learning English in rural areas in Vietnam*. Massey University.
- Pham, C. H. (2020). Narrative inquiry into language teachers' agentic adoption of information and communications technology. *Computer-Assisted Language Learning Electronic Journal*, 21(3), 60–73.
- Pham, C. H. (2023). Examining the role of significant others in Vietnamese high school EFL students' motivational constructions. *Learning: Research and Practice*, 9(1), 4–22. doi:10.1080/23735082.2022.2134574
- Pickard, A. J. (2013). *Research methods in information*. Facet., doi:10.29085/9781783300235
- Pikhart, M. (2021). Human-computer interaction in foreign language learning applications: Applied linguistics viewpoint of mobile learning. *Procedia Computer Science*, 184, 92–98. doi:10.1016/j.procs.2021.03.123
- Pink, S. (2007). *Doing visual ethnography: Images, media, and representation in research*. SAGE Publications. doi:10.4135/9780857025029
- Plonsky, L. (2015). *Advancing quantitative methods in second language research*. Routledge. doi:10.4324/9781315870908
- Podesva, R. J., & Sharma, D. (2014). *Research methods in linguistics*. CUP.
- Pole, C., & Morrison, M. (2003). *Ethnography for education*. Open University Press.
- Polio, C., & Lee, J. (2019). Experimental studies in L2 classrooms. In J. W. Schwieter & A. Benati (Eds.), *The Cambridge handbook of language learning* (pp. 137–165)., <https://doi.org/DOI>, doi:10.1017/9781108333603.007
- Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.
- Polkinghorne, D. E. (1995). Narrative configuration in qualitative analysis. *International Journal of Qualitative Studies in Education : QSE*, 8(1), 5–23. doi:10.1080/0951839950080103

- Polkinghorne, D. E. (2005). Language and meaning: Data collection in qualitative research. *Journal of Counseling Psychology, 52*(2), 137–145. doi:10.1037/0022-0167.52.2.137
- Prior, M. T., & Talmy, S. (2021). A discursive constructionist approach to narrative in language teaching and learning research. *System, 102*, 1–11. doi:10.1016/j.system.2021.102595
- Priya, A. (2021). Case Study Methodology of Qualitative Research: Key Attributes and Navigating the Conundrums in Its Application. *Sociological Bulletin, 70*(1), 94–110. doi:10.1177/0038022920970318
- Psaty, B. M., & Prentice, R. L. (2010). Minimizing bias in randomized trials: The importance of blinding. *Journal of the American Medical Association, 304*(7), 793–794. doi:10.1001/jama.2010.1161 PMID:20716744
- Quyen, V. P., & Yen, P. H. (2018). English lecturers' perceptions of improving English teaching quality through action research: What do lecturers of Can Tho University say? *Can Tho University Journal of Science., 54*(2), 98–105.
- Rahimi, A. R. (2023). The role of EFL learners' L2 self-identities, and authenticity gap on their intention to continue LMOOCs: Insights from an exploratory partial least approach. *Computer Assisted Language Learning, 1–32*. doi:10.1080/09588221.2023.2202215
- Rampton, B., Maybin, J., & Roberts, C. (2015). Theory and method in linguistic ethnography. In J. Snell, S. Shaw, & F. Copland (Eds.), *Linguistic ethnography interdisciplinary explorations* (pp. 14–50). Palgrave Macmillan. doi:10.1057/9781137035035_2
- Rasmitadila, A., Rusmiati, R. R., Samsudin, A., Achmad, S., Nurtanto, M., Muhammad, T., & Suryanti, A. R. (2020). Primary school teachers' perceptions of online learning during the covid-19 pandemic period: a case study in Indonesia. *Journal of Ethnic and Cultural Studies, 90–109*.
- Rassaei, E. (2015). Recasts, field dependence/independence cognitive style, and L2 development. *Language Teaching Research, 19*(4), 499–518. doi:10.1177/1362168814541713
- Ratner, C. (2002). Subjectivity and objectivity in qualitative methodology. *Forum Qualitative Sozialforschung/Forum: Qualitative. Social Research, 3*(3). <http://nbn-resolving.de/urn:nbn:de:0114-fqs0203160>
- Ravitch, S. M., & Carl, N. M. (2020). *Qualitative research: Bridging the conceptual, theoretical, and methodological*. SAGE Publications.
- Reason, P., & Bradbury, H. (2001). Participatory Action Research: International Perspectives and Practices. *International Journal of Research in Education and Science, 159*.
- Reeves, S., Kuper, A., & Hodges, B. D. (2008). Qualitative research methodologies: Ethnography. *BMJ (Clinical Research Ed.), 337*(aug07 3), a1020. doi:10.1136/bmj.a1020 PMID:18687725
- Reeves, S., Peller, J., Goldman, J., & Kitto, S. (2013). Ethnography in qualitative educational research: AMEE Guide No. 80. *Medical Teacher, 35*(8), e1365–e1379. doi:10.3109/0142159X.2013.804977 PMID:23808715
- Reichardt, C. S. (2009). Quasi-experimental design. In R. E. Millsap & A. Maydeu-Olivares (Eds.), *The SAGE handbook of quantitative methods in psychology* (pp. 46–71). SAGE Publications Ltd., doi:10.4135/9780857020994.n3
- Rellstab, D. H. (2023). Building Bridges Across Borders and Digital Divides? In *International Seminar on Language, Education, and Culture (IsoLEC 2022)* (pp. 46-55). Atlantis Press. 10.2991/978-2-38476-038-1_6
- Reznicek-Parrado, L. M. (2023). *The Peer-effect: Non-traditional Models of Instruction in Spanish as a Heritage Language*. Taylor & Francis. doi:10.4324/9781003191179

Compilation of References

- Riazi, A. M., & Farsani, M. A. (2023). Mixed-methods research in applied linguistics: Charting the progress through the second decade of the twenty-first century. *Language Teaching*, 1–40. doi:10.1017/S0261444823000332
- Riazi, A. M., & Farsani, M. A. (2023). Mixed-methods research in applied linguistics: Charting the progress through the twenty-first century's second decade. *Language Teaching*, 1–40.
- Richard, B. (2005). Qualitative inquiry: Tensions and transformations. In Z. Dörnyei (Ed.), *Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies* (pp. 121–137). Oxford University Press.
- Richards, J. C., & Rodgers, T. S. (2001). *Approaches and Methods in Language Teaching* (2nd ed.). Cambridge University Press. doi:10.1017/CBO9780511667305
- Richardson, L., & Pierre, E. A. S. (2005). Writing: a method of inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 959–978). Sage.
- Ridley, D. (2012). *The Literature Review: A Step-by-Step Guide for Students*. SAGE Publication.
- Ridley-Duff, R. (2008). Social enterprise as a socially rational business. *International Journal of Entrepreneurial Behavior & Research*, 14(5), 291–312.
- Riessman, C. K. (2008). *Narrative methods for the human sciences*. Sage Publications.
- Robinson, M. A. (2012). How design engineers spend their time: Job content and task satisfaction. *Design Studies*, 33(4), 391–425. doi:10.1016/j.destud.2012.03.002
- Robson, C. (2002). *Real World Research: A Resource for Social Scientists and Practitioner-researchers*. Wiley Publishing.
- Rogers, J., & Révész, A. (2023). Experimental and quasi-experimental designs. In J. McKinley & H. Rose (Eds.), *The Routledge handbook of research methods in applied linguistics* (pp. 133–143). Routledge.
- Rosiak, K. (2023). The role of language attitudes and ideologies in minority language learning motivation: A case study of Polish migrants' (de) motivation to learn Welsh. *European Journal of Applied Linguistics*, 11(1), 26–52. doi:10.1515/eujal-2021-0018
- Ross, S. M., & Morrison, G. R. (2013). Experimental Research Methods. In D. Jonassen & M. Driscoll (Eds.), *Handbook of research on educational communications and technology* (pp. 1007–1029). Routledge., doi:10.4324/9781410609519
- Roulston, K. (2014). Conducting and analyzing individual interviews. In C. M. Conway (Ed.), *The Oxford handbook of qualitative research in American music education* (pp. 250-270). Oxford: Oxford University Press. doi:10.1093/oxfordhb/9780199844272.013.014
- Roulston, K. (2022). *Interviewing: A guide to theory and practice*. SAGE.
- Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing: The art of hearing data*. SAGE Publications. doi:10.4135/9781452226651
- Runeson, P., Höst, M., Rainer, A., & Regnell, B. (2012). *Case Study Research in Software Engineering: Guidelines and Examples*. Wiley Publishing. doi:10.1002/9781118181034
- Sagor, R. (1992). *How to conduct collaborative action research*. Association for Supervision and Curriculum Development.
- Saito, K. (2021). Effects of corrective feedback on second language pronunciation development. In H. Nassaji & E. Kartchava (Eds.), *The Cambridge handbook of corrective feedback in second language learning and teaching* (pp. 407–428). Cambridge University Press. doi:10.1017/9781108589789.020

- Saito, K. (2023). How does having a good ear promote successful second language speech acquisition in adulthood? Introducing auditory precision hypothesis-L2. *Language Teaching*, 56(4), 522–538. doi:10.1017/S0261444822000453
- Saito, K., & Lyster, R. (2012). Effects of form-focused instruction and corrective feedback on L2 pronunciation development of /ɹ/ by Japanese learners of English. *Language Learning*, 62(2), 595–633. doi:10.1111/j.1467-9922.2011.00639.x
- Saldaña, J. (2003). *Longitudinal qualitative research: analyzing change through time*. AltaMira Press.
- Salkind, N. J. (2012). *Exploring research* (8th ed.). Pearson Education.
- Sarah, P. (2014). *Doing visual ethnography*. SAGE Publications, Ltd.
- Saussure, F. (1973). *Giáo trình Ngôn ngữ học Đại cương/ Cours de linguistique générale*. Social Sciences Publishing House.
- Schensul, S. L., Schensul, J. J., & LeCompte, M. D. (1999). *Essential ethnographic methods: Observations, interviews, and questionnaires*. Rowman & Littlefield Publishers Inc.
- Scholfield, P. (1991). Statistics in linguistics. *Annual Review of Anthropology*, 20(1), 377–393. doi:10.1146/annurev.an.20.100191.002113
- Scott-Phillips, T. C. (2017). Pragmatics and the aims of language evolution. *Psychonomic Bulletin & Review*, 24(1), 186–189. doi:10.3758/s13423-016-1061-2 PMID:27368617
- Segal, A., & Lefstein, A. J. (2016). Exuberant, voiceless participation: An unintended consequence of dialogic sensibilities? *L1-Educational Studies in Language and Literature*, 16(2), 1–19. doi:10.17239/L1ESLL-2016.16.02.06
- Selvi, A. F. (2020). Qualitative content analysis. In J. McKinley & H. Rose (Eds.), *The Routledge handbook of research methods in applied linguistics* (pp. 440–452). Routledge.
- Shank, G. D. (2002). *Qualitative research. A personal skills approach*. Upper Saddle River.
- Sharifian, F. (2017). Cultural Linguistics: The State of the Art. In F. Sharifian (Ed.), *Advances in Cultural Linguistics* (pp. 1–28). Springer. doi:10.1007/978-981-10-4056-6_1
- Shaw, S., Copland, F., & Snell, J. (2015). *An introduction to linguistic ethnography: Interdisciplinary explorations*. Palgrave Macmillan.
- Shelley, M., Murphy, L., & White, C. (2013). Language teacher development in a narrative frame: The transition from classroom to distance and blended settings. *System*, 41(3), 560–574. doi:10.1016/j.system.2013.06.002
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63–75. doi:10.3233/EFI-2004-22201
- Sheskin, D. J. (2011). *Handbook of parametric and nonparametric statistical procedures*. CRC Press/Taylor & Francis Group.
- Shimizu, I. (2014). *Multistage sampling*. *Wiley StatsRef: Statistics Reference Online*. Wiley.
- Shirvan, M. E., Taherian, T., Shahnama, M., & Yazdanmehr, E. (2021). A longitudinal study of foreign language enjoyment and L2 grit: A latent growth curve modeling. *Frontiers in Psychology*, 12, 1–11. doi:10.3389/fpsyg.2021.720326 PMID:34526939
- Silverman, D. (2014). *Interpreting qualitative data* (5th ed.). Sage.
- Silverman, D. (2016). *Qualitative research* (4th ed.). SAGE Publications.

Compilation of References

- Silverman, D. (2022). *Doing qualitative research* (6th ed.). Sage Publications.
- Singh, S. (2003). *Advanced Sampling Theory with Applications: How Michael 'selected' Amy* (Vol. 1). Springer.
- Smith, J. (2018). The languages in-service program for teachers of languages other than English: An evaluation study. *Educational Research Journal*, 15(4), 67–79.
- Smith, J., & Johnson, M. (2017a). Exploratory Practice in Action Research: A Collaborative Approach. *The Journal of Educational Research*, 15(2), 78–91.
- Smith, J., & Johnson, M. (2017b). Collaborative Action Research in Education: A Practical Guide. *Educational Development Journal*, 10(3), 45–58.
- Smith, J., & Lee, H. (2020). Qualitative Data in Educational Research: Reliability Concerns. *Journal of Educational Psychology*, 112(2), 183–196.
- Smith, L. (2015). *Action research for teachers: A practical guide*. Cambridge University Press.
- Snell, J. (2015). Linguistic ethnographic perspectives on working-class children's speech challenge discourses of deficit. In J. Snell, S. Shaw, & F. Copland (Eds.), *Linguistic ethnography interdisciplinary explorations* (pp. 225–245). Palgrave Macmillan. doi:10.1057/9781137035035_12
- Snell, J., Shaw, S., & Copland, F. (Eds.). (2015). *Linguistic ethnography interdisciplinary explorations*. Palgrave Macmillan. doi:10.1057/9781137035035
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. doi:10.1016/j.jbusres.2019.07.039
- Souza, F. N., Neri, D. C. D. S. B., & Costa, A. P. (2016). Asking questions in the qualitative research context. *The Qualitative Report*, 21(13), 6–18. doi:10.46743/2160-3715/2016.2607
- Spector-Mersel, G. (2010). Narrative research: Time for a paradigm. *Narrative Inquiry*, 20(1), 204–224. doi:10.1075/ni.20.1.10spe
- Spradley, J. P. (1979). *The ethnographic interview*. Holt, Rinehart and Winston.
- Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding and using trustworthiness in qualitative research. *Journal of Developmental Education*, 44(1), 26–28.
- Stake, R. E. (1995). *The Art of Case Study Research*. SAGE Publications.
- Starfield, S. (2015). Ethnographic research. In B. Paltridge & A. Phakiti (Eds.), *Research methods in applied linguistics: A practical resource* (pp. 137–152). Bloomsbury Publishing Plc., <https://ebookcentral.proquest.com/lib/usyd/detail.action?docID=6939693>
- Stawarska, B. (2020). *Saussure's linguistics, structuralism, and phenomenology*. Palgrave Macmillan. doi:10.1007/978-3-030-43097-9
- Stenhouse, L. (1985). A Note on Case Study and Educational Practice. In R. Burgess (Ed.), *Field Methods in the Study of Education*. The Falmer Press.
- Streeter, V. J. (1969). *Homogeneity in a sample of technical English*. University of Michigan.
- Stringer, E. (1996). *Action research: Principles and practice*. Open University Press.
- Stringer, E. T. (2013). *Action Research* (4th ed.). SAGE Publications.

- Stringer, E. T. (2014). *Action research*. Sage Publications.
- Stringer, E. T. (2019). *Action Research in Education: A Practical Guide*. Routledge.
- Stuart, I., McCutcheon, D., Handfield, R., McLachlin, R., & Samson, D. (2002). Effective case research in operations management: A process perspective. *Journal of Operations Management*, 20(5), 419–433. doi:10.1016/S0272-6963(02)00022-0
- Swain, M. (1995). Three functions of output in second language learning. In G. Cook & B. Seidlhofer (Eds.), *Principle and practice in applied linguistics* (pp. 125–144).
- Swann, J. (2007). Designing ‘educationally effective’ discussion. *Language and Education*, 21(4), 342–359. doi:10.2167/le702.0
- Sydorenko, T. (2015). The use of computer-delivered structured tasks in pragmatic instruction: An exploratory study. *Intercultural Pragmatics*, 12(3), 333–362. doi:10.1515/ip-2015-0017
- Szyszkka, M., & Lintunen, P. (2023). Zooming into the L2 speech fluency markers of anxious and non-anxious advanced learners - an extreme case sampling report. *Research in Language*, 21(4), 357–376. doi:10.18778/1731-7533.21.4.02
- Taylor, R., & Harris, F. (2022). Subjectivity in Qualitative Methods: Implications for Action Research. *Journal of Qualitative Research in Education*, 55(4), 569–582.
- Taylor, S. J., Bogdan, R., & DeVault, M. L. (2016). *Introduction to qualitative research methods: A guidebook and resource* (4th ed.). Wiley.
- Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. In C. Willig & W. S. Rogers (Eds.), *The Sage handbook of qualitative research in psychology* (2nd ed., pp. 17–37). Sage. doi:10.4135/9781526405555.n2
- Thomas, D. R. (2006). A general inductive approach for analysing qualitative evaluation data. *The American Journal of Evaluation*, 27(2), 237–246. doi:10.1177/1098214005283748
- Thomas, D. R. (2016). Feedback from research participants: Are member checks useful in qualitative research? *Qualitative Research in Psychology*, 14(1), 23–41. doi:10.1080/14780887.2016.1219435
- Thompson, A., Stringfellow, L., Maclean, M., & Nazzari, A. (2021). Ethical considerations and challenges for using digital ethnography to research vulnerable populations. *Journal of Business Research*, 124, 676–683. doi:10.1016/j.jbusres.2020.02.025
- Thompson, L., & Garcia, M. (2021). Overcoming Fatigue in Action Research: Strategies for Teacher Researchers. *The Journal of Educational Research*, 114(4), 567–578.
- Thompson, S. K. (2012). *Sampling* (3rd ed.). John Wiley & Sons.
- Thorne, Q., & Qiang, W. (1996). Action research in language teacher education. *ELT Journal*, 50(3), 254–262. doi:10.1093/elt/50.3.254
- Thurmond, V. A. (2001). The point of triangulation. *Journal of Nursing Scholarship*, 33(3), 253–258. doi:10.1111/j.1547-5069.2001.00253.x PMID:11552552
- Tight, M. (2022). Designing case studies. *The SAGE Handbook of Qualitative Research Design*, 399–413.
- Toledo, A. H., Flikkema, R., & Toledo-Pereyra, L. H. (2011). Developing the research hypothesis. *Journal of Investigative Surgery*, 24(5), 191–194. doi:10.3109/08941939.2011.609449 PMID:21867386
- Toledo-Pereyra, L. H. (2011). Developing the research idea. *Journal of Investigative Surgery*, 24(3), 101–102. doi:10.3109/08941939.2011.572797 PMID:21524174

Compilation of References

- Tomkinson, S. (2015). Doing fieldwork on state organizations in democratic settings: Ethical issues of research in refugee decision making *orum Qualitative Sozialforschung Forum: Qualitative. Social Research*, 16(1). doi:10.17169/fqs-16.1.2201
- Torre, D., & Murphy, J. (2015). A different lens: Using photo-elicitation interviews in education research. *Education Policy Analysis Archives*, 23(111), 1–22.
- Tran, L., & Brown, D. (2018). Professional learning in Australian ELICOS: An action research orientation. *English Australia Journal*, 29(2), 45–58.
- Tran, T. T. (2023). Online-Merge-Offline Model for distance learning in English language education: A case study. *Vietnam Journal of Education*, 7(3), 215–226. doi:10.52296/vje.2023.251
- Tran, T. T. T., Baldauf, R. B. J. Jr, & Moni, K. (2013). Foreign language anxiety: Understanding its status and insiders' awareness and attitudes. *TESOL Quarterly*, 47(2), 216–243. doi:10.1002/tesq.85
- Trochim, W. M., & Donnelly, J. P. (2008). *Research methods knowledge base*. Atomic Dog.
- Trotzke, A., & Kupisch, T. (2020). Formal linguistics and language education: Bridging the gap. In A. Trotzke & T. Kupisch (Eds.), *Formal Linguistics and Language Education* (pp. 1–8). doi:10.1007/978-3-030-39257-4_1
- Tsushima, R. (2015). Methodological diversity in language assessment research: The role of mixed methods in classroom-based language assessment studies. *International Journal of Qualitative Methods*, 14(2), 104–121. doi:10.1177/160940691501400202
- Tusting, K. (2023). General introduction. In K. Tusting (Ed.), *The Routledge handbook of linguistic ethnography*. Routledge.
- Ushioda, E. (2015). Context and complex dynamic systems theory. In Z. Dörnyei, A. Henry, & P. MacIntyre (Eds.), *Motivational dynamics in language learning* (pp. 47–54). Multilingual Matters.
- Vaismoradi, M., & Snelgrove, S. (2019). Theme in qualitative content analysis and thematic analysis. *Forum Qualitative Sozialforschung/Forum: Qualitative. Social Research*, 20(3), 1–14. doi:10.17169/fqs-20.3.3376
- Van der Veer, R. (2014). *Lev Vygotsky*. Bloomsbury.
- VanPatten, B. (2017). Situating instructed language acquisition: Facts about second language acquisition. *Instructed Second Language Acquisition*, 1(1), 45–59. doi:10.1558/isla.33315
- Vehovar, V., Toepoel, V., & Steinmetz, S. (2016). Non-probability sampling. In C. Wolf, D. Joye, T. Smith, & Y. C. Fu (Eds.), *The SAGE handbook of survey methodology* (pp. 329–345). SAGE Publications Ltd., doi:10.4135/9781473957893.n22
- Voss, C. (2010). Case research in operations management. In *Researching operations management* (pp. 176–209). Routledge.
- Vygotsky, L. S. (1988). The collected works of L. S. Vygotsky. Vol. I: Problems of general psychology. Plenum Press.
- Vygotsky, L. S. (1978). *Mind in society*. Harvard University Press.
- Vygotsky, L. S. (1986). *Thought and language*. MIT Press.
- Wallace, M. (2000). *Action research for language teachers*. Cambridge University Press.
- Wang, X., Jiang, L., Fang, F., & Elyas, T. (2021). Toward critical intercultural literacy enhancement of university students in China from the perspective of English as a lingua franca. *SAGE Open*, 11(2), 1–12. doi:10.1177/21582440211027544
- Wang, Y. (2017). Teacher research in language teaching: A critical analysis. *Language Education Review*, 22(1), 30–42.

- Wang, Y. (2020). Refining Teaching Approaches Through Iterative Action Research in the EFL Classroom. *Teaching and Learning Journal*, 18(4), 30–42.
- Wang, Y., & Stockwell, G. (2023). Social justice and technology in second language education. *Iranian Journal of Language Teaching Research*, 11(3 (Special Issue)), 1–18.
- Wang, Y., Xu, J., Li, H., & Qi, J. (2024). The impact of future L2 selves and positive emotions on self-regulated writing strategies: A mixed method approach. *Language Teaching Research*, 13621688241229534. doi:10.1177/13621688241229534
- Watson-Gegeo, K. A. (1988). Ethnography in ESL: Defining the essentials. *TESOL Quarterly*, 22(4), 575–592. doi:10.2307/3587257
- Webster, L., & Mertova, P. (2007). *Using narrative inquiry as a research method: An introduction to using critical event narrative analysis in research on learning and teaching*. Routledge. doi:10.4324/9780203946268
- Wei, L. (2023). Ethnography: Origins, features, accountability, and criticality. In J. McKinley & H. Rose (Eds.), *The Routledge handbook of research methods in applied linguistics* (pp. 154–164). Routledge.
- Weng, X., & Chiu, T. K. F. (2023). Instructional design and learning outcomes of intelligent computer assisted language learning: Systematic review in the field. *Computers and Education: Artificial Intelligence*, 4, 1–12. doi:10.1016/j.caeai.2022.100117
- Weng, Z., & Troyan, F. J. (2023). Developing language teacher identity through photo-elicitation in TESOL teacher education. *TESOL Journal*, 14(3), 1–12. doi:10.1002/tesj.714
- White, R. E., & Cooper, K. (2022). *Qualitative Research in the Post-Modern Era: Critical Approaches and Selected Methodologies*. Springer. doi:10.1007/978-3-030-85124-8
- Whittemore, A. S. (1997). Multistage sampling designs and estimating equations. *Journal of the Royal Statistical Society. Series B, Statistical Methodology*, 59(3), 589–602. doi:10.1111/1467-9868.00084
- Whittemore, R., Chase, S. K., & Mandle, C. L. (2001). Validity in qualitative research. *Qualitative Health Research*, 11(4), 522–537. doi:10.1177/104973201129119299 PMID:11521609
- Wild, H., Kyröläinen, A.-J., & Kuperman, V. (2022). How representative are student convenience samples? A study of literacy and numeracy skills in 32 countries. *PLoS One*, 17(7), e0271191. doi:10.1371/journal.pone.0271191
- Williams, E. (2018). Comparative Analysis of Research Methodologies: Action Research and Traditional Research. *Journal of Research in Education*, 35(4), 351–368.
- Wolcott, H. (2009). *Writing up qualitative research*. SAGE Publications, Inc., doi:10.4135/9781452234878
- Wolff, S. (2004). Clifford Geertz. In U. Flick, E. v. Kardorff, & I. Steinke (Eds.), *A companion to qualitative research* (pp. 47–52). Sage.
- Woods, P., & Sikes, P. (2022). *Successful writing for qualitative researchers*. Routledge. doi:10.4324/9781003143406
- Wu, C., & Thompson, M. E. (2020). *Sampling theory and practice*. Springer.
- Wu, J. G., Zhang, D., & Lee, S. M. (2023). Into the Brave New Metaverse: Envisaging Future Language Teaching and Learning. *IEEE Transactions on Learning Technologies*.
- Xie, J., & Correia, A. (2023). The effects of instructor participation in asynchronous online discussions on student performance: A systematic review. *British Journal of Educational Technology*, 1–19.

Compilation of References

- Yahya, U., Arif, M., & Awan, S. (2023). A conceptual review of qualitative research inquiry in applied linguistics. *Pakistan Languages and Humanities Review*, 7(2), 620–633. doi:10.47205/plhr.2023(7-II)55
- Yang, Y., & Lyster, R. (2010). Effects of form-focused practice and feedback on Chinese EFL learners' acquisition of regular and irregular past tense forms. *Studies in Second Language Acquisition*, 32(2), 235–263. doi:10.1017/S0272263109990519
- Yen, A. (2018b). Challenges and Contradictions in Representing Action Research in Educational Literature. *The Journal of Educational Research*, 25(3), 78–91.
- Yen, P. H. (2018a). English lecturers' perceptions and practices of research engagement: The case of Can Tho University. *Can Tho University Journal of Science.*, 54(2), 122–130.
- Yin, R. K. (1994). *Case Study Research: Design and Methods* (2nd ed.). Sage Publications.
- Yin, R. K. (1994). Discovering the future of the case study. Method in evaluation research. *Evaluation Practice*, 15(3), 283–290.
- Yin, R. K. (2013). Validity and generalization in future case study evaluations. *Evaluation*, 19(3), 321–332. doi:10.1177/1356389013497081
- Yin, R. K. (2014). *Case study research: Design and methods*. Sage Publications.
- Yin, R. K. (2018). *Case study research and applications* (Vol. 6). Sage Publications.
- Yiotis, K. (2013). The Open Access Initiative: A New Paradigm for Scholarly Communications. *Information Technology and Libraries*, 24(4), 157–162. doi:10.6017/ital.v24i4.3378
- Younas, A., Fàbregues, S., Durante, A., Escalante, E. L., Inayat, S., & Ali, P. (2023). Proposing the “MIRACLE” narrative framework for providing thick description in qualitative research. *International Journal of Qualitative Methods*, 22, 1–13. doi:10.1177/16094069221147162
- Zhang, Z. V., & Hyland, K. (2018). Student engagement with teacher and automated feedback on L2 writing. *Assessing Writing*, 36, 90–102. doi:10.1016/j.asw.2018.02.004
- Zhou, J. (2014). Teacher education changes in China: 1974–2014. *Journal of Education for Teaching*, 40(5), 507–523. doi:10.2753/CED1061-1932450405
- Zhu, Y., Liu, Y., Yang, N., & Newton, J. (2023). Changing teacher educator cognition within a collaborative teacher education programme for CLIL: A case study in China. *Language Teaching Research*, 13621688231179513. doi:10.1177/13621688231179513
- Zittoun, T. (2020). Imagination in people and societies on the move: A sociocultural psychology perspective. *Culture & Psychology (Irvine, Calif.)*, 26(4), 654–675.
- Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and Practice in Language Studies*, 3(2), 254–262. doi:10.4304/tpls.3.2.254-262
- Zulyadi, R. (2020). Police's role in investigation process of fraud criminal act of civil servants candidate (case study of police station binjai). *Britain International of Humanities and Social Sciences (BIOHS). Journal*, 2(2), 403–411.

About the Contributors

Bui Phu Hung holds a PhD in TESOL. He was awarded a bachelor's degree in English language teaching by National University of Vietnam, and then a master's degree in TESOL by Victoria University, Australia. He is now a faculty member at Department of Foreign Language Studies at Ton Duc Thang University, Vietnam. He is in charge of the research affairs of the department. He used to be the faculty dean and vice at several colleges and universities in Vietnam. He has been invited to make keynote and plenary talks at many international conferences in Asia. His research interests are diverse, including cognitive linguistics, systemic functional linguistics, L2 writing, language pedagogy, teacher education, cooperative learning, language planning and policy, and socio-cultural theory. He has many papers indexed in Scopus and Web of Science. His research profiles can be found at ORCID ID: 0000-0003-3468-4837 and ResearcherID: Q-7685-2019.

Truong Cong Bang is the Director of Studies and Lecturer in English at the Institute of Foreign Languages, University of Economics and Law (Vietnam National University) in Ho Chi Minh City, Vietnam. He holds a PhD from the University of Newcastle, Australia. His research interests focus on teaching and learning English at universities, and motivational theories, particularly the constructs of expectancy-value and self-efficacy.

Thi Cao Nguyen Bui has taught English for 28 years. She has researched teaching methods and applying technology in teaching.

Thanh-Hai L. Cao (Ph.D in American Studies) is a senior lecturer in American Studies and International Studies at the University of Foreign Languages and International Studies (HUFLIS), Hue University, Vietnam. Her research interests revolve around issues relating to race, class and gender in American society, Asian American Studies, Cross-cultural communication and World Englishes. She is also a researcher in English and American literature.

Tu Cam Thi Dang is a PhD student at University of Georgia, USA. She gained her BA in ELT at Hue University of Foreign Languages and International Studies and her MA in Applied Linguistics at Victoria University of Wellington, New Zealand. Her research interests include teaching methodology and applied linguistics, multilingualism and adolescents.

About the Contributors

Chau Thi Hoang Hoa, PhD, is an EFL teacher of Tra Vinh university, Vietnam. Her research interests are teaching EFL in general education, teachers' education, and integrating cultures into teaching EFL. She is especially interested in studying a diversity of strategies to integrate culture into teaching EFL in upper secondary education in Vietnam to build learners' intercultural communicative competence.

Diem Thuy Hong is a young lecturer at Dong Thap University.

Hai Thi Thanh Le (PhD in TESOL Studies) is a senior lecturer at the Faculty of English for Specific Purposes, University of Foreign Languages and International Studies, Hue University, Vietnam. Her research interests include language policy, teacher education, and language testing and assessment.

Thanh Nguyet Anh Le is a lecturer of English in Foreign Languages Faculty at Dong Thap University, Vietnam. She has taught English for 23 years. Her research fields are EFL teaching methodology, testing and assessment, learner autonomy, and EFL students.

Ngoc Tram Anh Lu has taught as a lecturer at Dong Thap University for more than ten years.

Rizgar Mahmood pursued his academic endeavours at California State University, Northridge in the USA, where he earned a master's degree in Linguistics/TESL. After graduating in 2019, he worked as an assistant lecturer at Salahaddin University, Erbil in Iraqi Kurdistan until 2022. Currently, he is pursuing his PhD in Applied Linguistics/Second Language Acquisition, focusing on the effectiveness of pronunciation instruction and corrective feedback on the development of L2 learners' pronunciation.

Tran Tin Nghi currently works as the Dean of Faculty of Foreign Languages, Ho Chi Minh City University of Food Industry, Ho Chi Minh City, Vietnam. He is interested in second language learning and teaching, corpus studies, literacy studies, and cognitive linguistics

Ha-Anh Thi Nguyen has her PhD degree from the School of Education, Macquarie University, Australia. She is Vice Dean at the Faculty of English, Hanoi Pedagogical University 2, Vietnam. Her research interests include English-medium instruction, translanguaging, informal language learning, language learning ecology, learning and technologies.

Huy Van Nguyen is a Lecturer in Applied Linguistics and TESOL at Hue University of Foreign Languages and International Studies. He earned his PhD in Language Education from The University of Queensland, Brisbane, Australia. His main research interests are in the area of language assessment, language planning and policy (LPP), with a special focus on language-in-education policy, English as a medium of instruction (EMI), and educational leadership in developing countries.

Khang Van Nguyen is now a professor of linguistics at Phenikaa University. He holds a PhD from Russia was promoted to full professorship in 2004. He has been a teacher trainer and a lecturer in graduate programs in linguistics. He has also supervised many doctoral theses in linguistics. His research interests mainly focus on sociolinguistics and lexicology.

Thuy Ho Hoang Nguyen obtained an MA and a PhD both in Applied Linguistics from the University of Queensland, Australia. She is currently a senior lecturer at the Faculty of English, University of Foreign Languages and International Studies, Hue University, Vietnam. Her research interests and publications are mainly in Applied Linguistics and English language education.

Pham Huy Cuong is Dean of Faculty of English, Ho Chi Minh City University of Economics and Finance, Vietnam. He obtained his PhD in Applied Linguistics from Massey University, New Zealand. He has profound teaching and research experience in both EAP and ESP contexts in New Zealand and Vietnam. His research interests include affective factors in language learning, learner agency, ecological systems theory, curriculum design, and language learning and teaching in rural settings.

Pham Huy Cuong is Dean of Faculty of English, Ho Chi Minh City University of Economics and Finance, Vietnam. He obtained his PhD in Applied Linguistics from Massey University, New Zealand. He has profound teaching and research experience in both EAP and ESP contexts in New Zealand and Vietnam. His research interests include affective factors in language learning, learner agency, ecological systems theory, curriculum design, and language learning and teaching in rural settings.

Trần Thị Thảo Phương (Phuong Tran) is a lecturer in English Faculty at the University of Foreign Languages and International Studies, Hue University (HUFLIS). She obtained her Ph.D. degree in Applied linguistics at The University of Queensland in early 2020. Her areas of research and supervisory expertise include teaching English as a foreign language (TEFL), translation education, clinical pragmatics, health communication, technology in language teaching and in translation.

Thi Tuyet Tran is currently the division head of English theoretical linguistics in the Faculty of English Language Studies at Hanoi University of Business and Technology, Vietnam. Additionally, she serves as an academic manager at Vietnam Golden Generation, JSC. She earned her master's degree in TESOL in 2010 and completed her doctorate in Education in 2022. She is pursuing a second Ph.D. in English language teaching in the Faculty of Humanities and Social Sciences at Maha Sarakham University, Thailand. Thi Tuyet Tran has worked for various esteemed universities and educational institutions in Vietnam, focusing on TESOL, teacher training, curriculum design, educational leadership, and online training solutions. Her research interests encompass various areas, including educational leadership, well-being, and TESOL, reflecting her dedication to advancing education.

Vo Phan Thu Ngan currently works at Dong Thap University, Vietnam as an EFL lecturer for major and non-major students. Her main interests revolve around the use of technology to promote English language teaching and learning, English skills' development, discourse analysis and academic writing.

Index

A

Abstract 1, 15, 23, 29, 40-41, 55, 59, 70, 73, 86, 103, 122, 141, 150, 164, 182, 206, 228
 Accuracy 32, 60, 73, 76-77, 79, 85-91, 93, 95-96, 98-99, 102, 113, 137, 191, 215
 action research 43, 53, 74, 81, 164-181, 183, 200, 213, 232
 Application of Technology 233-235, 238
 Applied Linguistics 1-4, 7, 12, 30, 32, 36-39, 42, 47-48, 52-55, 57, 64, 66, 68-87, 89-90, 92-93, 95-98, 103-104, 106-111, 113-119, 122-124, 131, 133-135, 137-147, 150-151, 155-156, 159-163, 178, 182-183, 185-204, 206-209, 219, 223-233, 237-243
 Audio Data 44, 54
 Axiology 20, 28, 40

B

Bibliographic Data 22, 28

C

Case Study 39, 43, 53, 70, 82-83, 182-188, 190-205
 Catalytic validity 76, 85
 Cluster Sampling 103-104, 106, 117
 Collaborative Action Research 169-170, 180-181
 complementarity 29-30, 34-35, 37
 Conceptual 8, 15-16, 24, 26, 28, 38, 53, 59, 61, 63, 70-72, 84, 157, 163
 Concurrent Validity 92, 102
 Confidentiality 79, 94, 97, 118, 135, 137, 148, 153, 194, 209, 216-217, 227
 Consistency 63-64, 67, 86-89, 93-94, 96, 99, 102, 170, 191, 208, 214
 Construct Validity 89, 91, 102, 209, 215
 constructivism 29, 31-32
 Content Analysis 55-56, 63-69
 Content Validity 89-91, 102, 209, 215

Contextual Analysis 205
 Contextual Insights 182
 Contextual validity 76-77, 85
 Convenience Sampling 103, 107, 117, 208
 Criterion-Related Validity 89, 92, 102, 209, 215
 Critical Incident 150, 156-157, 159, 161, 163
 critical incident narratives 150, 156-157, 159
 Cultural Sensitivity 137, 197, 205

D

data analysis 1, 9, 14, 24, 39, 46, 49, 53, 55-58, 60, 62-65, 67-69, 101, 108, 110, 120, 133, 135-139, 141, 143, 146, 151, 154-155, 157-159, 161, 174-175, 201, 219, 221-222, 236-237
 Deductive Approach 33, 55-56, 63, 69
 Digital Data 45, 54, 197
 Digital Learning Environments 205
 Digital Tools in Research 205
 disparity 29-30, 37, 221
 Documentary Data 44, 54, 138

E

Educational Practices 47-48, 164, 168-170, 182, 189, 197
 EFL education 164, 170, 174, 177-178
 Empirical Inquiry 182
 Epistemology 3, 20, 26-28, 40, 42-43, 82, 150-151, 159, 161
 Ethics 40, 49-52, 70, 78-79, 83-84, 92, 97-98, 118, 134-135, 145, 154, 161, 199, 204
 Ethnography 37, 43, 51-53, 72, 74, 111, 120, 122-125, 127-128, 130-134, 137-139, 141-148
 Evolution 17-18, 28, 72, 124, 133, 165, 185, 189, 196, 230, 240, 242
 Experimental research 11, 206-221, 223-226
 Exploratory Action Research 169, 177, 181

F

Field note 131, 148
 Field Notes 44-45, 47, 49-50, 54, 125, 128, 131-133, 136-137, 139, 189
 formulate 6, 12, 21, 23, 33, 207, 210
 Framework 12, 15-17, 23-24, 26, 28, 31, 33, 36-38, 40, 56, 61-62, 68-69, 76, 94, 133-134, 140-142, 164, 170-171, 173, 187, 208, 213

I

identify 1, 3, 6, 10, 12, 18-27, 47-49, 56-58, 64-65, 73, 89, 100, 108, 110-111, 121, 131, 138, 158, 169, 175, 208, 235
 Inductive Approach 55-56, 62, 64, 68-69
 Informed Consent 49, 79, 94, 97-98, 117-118, 135, 137, 194, 216-217, 227
 Interaction 29, 57-60, 93, 133-134, 144-146, 151-152, 154, 158, 196, 199, 202, 224, 228-229, 231-235, 238, 241
 Inter-Rater Reliability 88-89, 94, 102
 Interview 5, 9, 44, 46, 50-51, 53-54, 57-58, 60, 62-63, 65, 67, 73, 75, 122, 130-131, 136, 138, 144, 148, 155, 169, 189
 Interview Data 44, 54, 62

L

L2 education 122-123, 132, 134, 137-142, 208, 235
 Language Analysis 228-229, 238-239, 243
 Language Education 1-6, 12, 37, 55, 58, 62, 64, 67, 70-72, 74-82, 85-87, 89-90, 92-93, 95-100, 103-104, 109-110, 116-117, 132, 134, 140, 142, 151-152, 159, 164-166, 171, 177-180, 182-199, 201, 203, 206-207, 209, 228-229, 231-236, 238-243
 Language teacher 86, 145, 162-163, 165, 178, 180, 231, 238
 Literature Review 8, 15-28, 40, 141, 187-188, 215

M

Map 20, 25-26, 28, 59
 Marginalized communities 70, 76, 79, 85, 117
 meaning 15, 17, 29, 35, 51, 55, 57-58, 60-62, 64-65, 84, 123, 129, 134, 144, 150-159, 229-230, 234, 240, 243
 Methodological approach 122, 165, 190-192, 206
 Methodological Rigor 72, 76, 187-188, 191, 195, 205
 mixed methods 14, 27, 29-31, 34, 36-39, 43, 51, 54, 74, 101, 111-113, 119-120, 178, 199, 204, 224,

234, 242

Multidisciplinary 97, 231-232, 243
 Multistage Sampling 103-104, 106-107, 117, 120

N

Narrative Analysis 138, 150, 157-158, 162-163
 narrative epistemology 150-151
 Narrative Frame 154-155, 162-163
 narrative frames 150-151, 154-155, 159, 161
 Narrative Inquiry 32, 43, 150-157, 159-163
 Nature 4, 14-16, 20, 28-30, 35-38, 40-45, 51, 55, 58, 64, 70-73, 76, 79, 81, 97, 113-114, 119, 123-125, 127, 131-133, 136, 139-140, 154, 159, 165-168, 171, 173-174, 184-185, 189-191, 193, 209, 211, 213, 216, 220, 222, 229, 234, 238, 240
 needs and nature 15-16
 Non-Probability Sampling 103-104, 120

O

Objective 1, 10, 17, 28-30, 32-33, 37, 42-43, 49, 54, 71, 86, 95, 104, 116, 127, 136, 140, 168, 176, 190, 210
 objectives 1, 15, 18-19, 23-24, 35, 45, 56, 92, 94-95, 97, 99, 107-108, 118, 128, 136, 171-172, 183, 191, 206, 218, 225
 Observation 5, 9-10, 32-33, 43-47, 52, 54, 57-58, 60, 63, 122, 124, 127-135, 142-143, 148, 173, 206, 210, 227
 Observational Data 44, 54
 Ontology 20, 26-28, 40, 150-151, 159, 161

P

Paradigmatic Analysis 157-158, 163
 Participants 11, 20, 31-32, 43-48, 50-51, 54, 57-58, 60-61, 64-65, 68, 70, 73-80, 85, 87-91, 93-98, 100, 105, 107-118, 121, 124, 128-131, 133, 135, 137, 140-141, 148, 150-159, 163, 169, 181, 187, 194-195, 197, 205, 207-208, 211-212, 214, 216-218, 227, 236-237
 Participants Confidentiality 227
 Participants' Artifacts 45, 54
 Participatory Action Research 74, 81, 169, 178-181
 philosophical assumption 41-42
 Philosophical Assumption 54
 Population 11, 20, 37, 93-95, 97, 100, 103-107, 109-118, 121, 212
 positivism 29, 32-33, 66
 Predictive Validity 92, 102
 Principle 28, 97, 110, 125, 127, 135, 148, 242

Index

Privacy 49-50, 79, 97-98, 118, 135, 148, 153, 197, 217, 227
Probability Sampling 103-104, 112-115, 118
Procedure 1, 15, 20, 28, 49, 57, 105, 121, 135
Purposive Sampling 107-108, 110, 112, 115, 118, 237

Q

qualitative 3-4, 13-14, 23, 26-27, 29-32, 34-39, 41-58, 60-61, 63-72, 74-78, 80-85, 93, 96, 101, 112, 115-116, 118-120, 122-124, 130, 133, 137-138, 141-148, 150-151, 153-155, 157-163, 168, 175-176, 178-180, 190-191, 199-204, 212, 219, 224-225, 234, 236, 238, 242
Qualitative Data 35-36, 41-45, 47-51, 53-58, 60-61, 63-69, 75, 93, 96, 138, 143, 146, 155, 158-159, 161, 175-176, 180, 236
qualitative research 13-14, 23, 26-27, 29-31, 39, 41-56, 60, 63, 65-71, 75-78, 80-85, 101, 112, 115-116, 118-120, 122-124, 141-148, 150, 153-155, 157, 160-163, 180, 191, 199-204
quantitative 3-4, 12-14, 23, 27, 29-39, 41-44, 51-54, 64, 66, 69, 74, 86-87, 89-90, 92-94, 99-102, 104, 111-113, 115-116, 118-120, 125, 160, 168, 175-176, 178-179, 190-191, 199, 204, 208, 215, 218-220, 224-226, 236
Quantitative Data 34-37, 41, 43, 54, 175, 190, 218-220, 236
Quantitative research 12, 29-30, 33-34, 39, 43-44, 86-87, 89-90, 92-94, 99-100, 102, 104, 113, 118-119, 125, 176, 208, 215

R

Reflexivity 31, 47, 49-50, 60, 65-66, 70, 72, 74, 77-78, 80, 85, 130, 137, 194-195, 200
Reliability 5, 22, 33, 49, 63-64, 77, 83-84, 86-90, 93-96, 99-100, 102-103, 115, 176, 180, 189, 191, 193, 195, 205, 209, 214-215, 232
Research Area 2-3, 6-7, 9, 14, 24
Research Design 2, 5, 14, 27-28, 38-39, 51, 53, 66, 78-79, 101, 112, 119-120, 127, 132, 141, 143, 178, 187, 190, 194, 203-204, 209, 212-213, 218, 223-224, 227, 236
Research Hypothesis 14, 19, 210, 227
Research Instrument 227
Research methods 9, 11, 13-14, 16, 19, 24, 26, 34, 37-39, 42, 51-54, 65-69, 77, 81-82, 84, 98, 101, 118-119, 121, 130, 142-147, 157, 161, 176, 178-179, 199-200, 204-207, 223-227
Research Problem 1-10, 12-14, 19, 21, 23-25, 34-35, 37, 40, 43, 127, 157, 210
research process 1, 3-4, 6-8, 12, 19, 24, 32, 47, 50-51,

77-80, 97, 100, 117, 122, 124, 127, 130, 134, 136, 151, 153-154, 165, 167, 172-173, 175, 189, 191, 194-195, 205, 208-209, 217

Research Proposal 15, 39
research question 1, 9-13, 16, 18-19, 21, 30, 35, 37, 58, 61-62, 64, 108-109, 124, 131, 209, 243
Research Topic 2-3, 6-9, 14, 16-18, 20-21, 23-26, 30, 44, 48, 58, 109
researcher subjectivity 55, 60, 63

S

Sampling frame 104, 114, 117, 121
Sampling procedure 105, 121
Simple Random Sampling 104, 119
Sociolinguistics 82, 224, 232, 238, 243
Stakeholder Engagement 205
Stratified Sampling 104-107
Subjectivity 32, 49, 60-61, 63-65, 67, 69, 71, 75, 78, 80, 110, 153, 180
Systematic Sampling, 104

T

teacher development 162, 164, 176
Technological Advancements 18, 197, 235-236, 238-239, 243
Test-Retest Reliability 87, 89, 94, 102
Thematic Analysis 35, 47, 49, 55-56, 61-63, 65-69, 137, 150-151, 158
Theoretical 1-2, 12, 15-17, 23-24, 26, 28, 33-35, 52-53, 55-56, 61-63, 69, 72, 74, 90-92, 94-95, 97, 112, 125, 127, 133-134, 138-139, 141, 151, 164, 167-168, 183-188, 191-192, 196-198, 229-231
Transactional validity 75-76, 85
Transformational validity 75-76, 85
Triangulation 34, 55, 60, 65-66, 75-78, 80-81, 84-85, 93, 96, 128, 142, 156, 191, 194, 205
Trustworthiness 60, 65-67, 76, 79, 81, 84-85, 87, 89, 94, 98, 153, 162, 195

V

Validity 5, 16, 32-33, 43, 47, 49, 63, 70-77, 79-87, 89-96, 99-103, 112, 184, 189, 191, 193, 203, 205, 209-210, 213-216, 232
Variables 11-12, 19, 33-34, 75, 91-94, 96, 99, 102, 106-107, 109, 114, 133-134, 206-215, 218-222, 227
Vietnamese contexts 164
Visual Data 44, 54, 58-59, 65
visually mediated narratives 150, 155-156