

## Analysis of the content of the applied fifth grade chemistry book according to life skills

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### Research summary

The current research aims to analyze the chemistry books for the preparatory stage according to life skills for the academic year (2019-2020) and to know the life skills contained in the chemistry books for the preparatory stage through the following two questions: 1-What life skills should be available in the content of chemistry books prescribed for middle school students approved by the Ministry of Education, General Directorate of Curricula in the academic year (2019-2020).

2-What is the percentage of life skills included in the content of chemistry textbooks prescribed for middle school students approved by the Ministry of Education, General Directorate of Curricula in the academic year (2019-2020).

To achieve the objectives of the research, the researcher relied on previous studies, research and literature in the field of life skills and prepared a list in its initial form that includes life skills, which are necessary for analyzing chemistry books. The researcher presented a list in its initial form to a number of specialists and experts in the field of teaching methods, curricula, and deaf psychology. The researcher took sufficient time to examine all the paragraphs, remove, examine and add what is appropriate for the analysis tool to become in its final form, which included 30 skills for 7 fields.

The researcher adopted the analytical descriptive approach because this approach fits with this research and the researcher's use of all chemistry books for the preparatory stage of the research community, and the research sample consisted of three books, a chemistry book for the fourth scientific grade, and a chemistry book for the fifth grade for (bio-applied) for the academic year (2019-2020). Then the researcher analyzed the content of the chemistry textbook for the fourth and fifth scientific grades in the (biological -applied) branch according to the previous tool.

The researcher adopted the concept unit (explicit and implicit) as a unit for recording and repetition and as a unit for the census and to ensure the validity of the analysis, then analyzing a random sample and presenting it to a group of arbitrators. The arbitrators agreed on the validity of the analysis, and the stability of the analysis was calculated between the researcher and himself over a period of time and presented to external analysts using the Copper equation, The researcher reached the achievement of the chemistry book for the fifth preparatory scientific (biological) grade at a frequency of (4791) with a percentage of (40.80%) among the three books, The

Chemistry book for the fourth preparatory scientific class came in second place with a frequency of (3547) with a percentage of (30.21%), and in the last place was the Chemistry book for the fifth preparatory class, the scientific branch (applied) with a frequency of (3402) with a percentage of (28.97%), according For these results, the researcher recommended a number of recommendations, including:

1-Taking into account the areas of life skills which percentages are few in the chemistry books for the preparatory stage.

2-Taking into account consistency, integration and balance in the ratios of including life skills fields in chemistry books for the preparatory stage.

The researcher suggested a number of suggestions, including:

1-Conducting a similar study analyzing the books of (science) chemistry book for the third intermediate grade according to life skills.

2-. Training educational cadres on the use of educational aids, modern applications and educational strategies to teach life skills in the learning process.

### **Researcher problem:**

The current century is witnessing massive technological and scientific development in almost every aspects , these changes require a positive and fixable adaptation. These changes have been imposed on the communities in order to prepare and train their individuals on the required skills in order to perform their roles and duties in the correct way through the goals and routes of the scientific subject in order to establish the perfect mini life which the students will learn from in their future life outside the educational system. There is nothing higher than this goal for education to achieve by providing learners with life skills to create an individual who has the abilities to deal and interact with others, and all that exist in the environment of moral and material elements and interact with all that with absolute vitality in order to overcome all the problems and obstacles that face the individual specifically and the community in general.Subsequently succeeding in life and achieve happiness and success, thus it became essential for the educational system to adjust the science curriculum in general and chemistry curriculum in specific and include its academic course the correct life skills in order to assist the learners to comprehend life skills and their affect on the community and the environment in order to enhance the daily life of the learners, through the researcher knowledge of the academic content of chemistry books for the preparatory stage and being a teacher of chemistry for the preparatory stage, he found deficiencies surrounding these books in terms of their inclusion of life skills and the extent of their care.And in order to be sure the researcher has done several interviews and discussions with chemistry teachers as well as chemistry supervisors with experience of no less than 10 years (appendix No 1) their response came to assurethat contrast and deficiencies in opinions regarding chemistry curriculum for the preparatory stage which should be formed in a way that is orderly and successive manner to be employed to serve the learner in his life and the life of those who surround the learner in a better way, they have also stated that chemistry curriculum is classic in which the teacher as well as the learner remain bound by the information contained in their content and the scientific facts and theories found in their content. Thus , the

necessity of subjecting chemistry books to continuous analysis and evaluation to be able to face the developments and changes imposed by times and to reconsider the academic curricula, especially after the Ministry of Education implemented the diversified education system in the preparatory stage for the scientific branch in which it divided the scientific branch into (Applied Sciences - Biological Sciences) to keep pace with the continuous changes of knowledge as stated in the first qualitative conference 7/23/2016 AD, as it emphasized the development of education and upgrading of curricula and study plans. As well as the conference has recommended all Scientific competencies to provide the Ministry with all the ideas and creativeness that contributes in enhancing its duties and responsibilities and reconsider the educational curriculum and school books.

Thus researcher problem could be concluded in two questions.

1-What are the life skills that should be included in chemistry curriculum for preparatory stage?

2- What is the percentage of including life skills in chemistry curriculum of preparatory stage?

### **The importance of the research:**

The current era is witnessing rapid technological revolutions and massive development in scientific knowledge as well as technological applications, in the late twentieth century science has reached an end of an era in conclusive and accurate development, such as the deep knowledge of the atom, human DNA, the invention of computer and the discovery of basic laws of life and matter, and it did not stop at this, the end of the twentieth century which completed the grand development of science history that has opened a wide space in an interesting evolution which is yet to come in the twenty first century, eventually human as able to discover several Natural and Fundamental Laws, but this does not mean that human is in control of them but rather is on his way to becoming an observer of nature into a designer of it.

(kako 78-001)

The revolution of the rapid information, the growing knowledge, and The momentum of scientific and technical innovations in various different languages all these have put great responsibility on educational system in order to prepare the youth and provide them with whatever they need to go hand in hand with the flow of knowledge, comprehend and adapt with it. (Al Fahad 3;2001).

Therefore, there must be a way of education to keep pace with the requirement of the modern era and the future, a none conventional way in education. (Shoq mahmmod 53: 1995)

Education in its essence is concerned in gaining life skills which qualify learners to live and deal with people and participate in development work all those are important outcomes of educational curriculum (Saed 5;2003)

The third goal of education for all which was agreed upon in the Global Forum for Everyone (Dakhar 2000) stated that all countries should provide all the needs of the learners at all ages through the equal benefit, the suitable programs and gaining the right skills for life, this will lead to develop human abilities and then communities development in order to be able to communicate with others, UNICEF report indicated that (164) countries committed to **learning for all**, they

have included life skills as a mean to enable young people and establish the correct behavior in order to face life circumstances. League of Arab state assured in its meeting in 2001 The Arab Framework Document for Childhood, Enabling education, education and training that stimulates creativity and innovation in his life skills. (The Arab Framework Document for Childhood 2001)

The Conference on Education Development at the National Center for Educational Research in Egypt in 1993 also recommended the necessity of providing primary school students with basic skills for meaningful interaction with the family, society and the environment through studying a curriculum that includes scientific, mental and technological skills that fit daily life and its confrontations (recommendations of the Primary Education Development Conference in 1993). (Providing the individual with the correct scientific knowledge associated with acquiring the necessary skills to live life is a matter of appreciation. Automatic behavior based on innate thinking in life situations may lead the individual into an endless series of mistakes, given that he may measure things incorrectly, while the behavior based on A sound scientific basis that helps the individual to reach his goals (Fahim, 2005: 47)..(

There is a necessity to pay attention to life skills and to provide students with them, in order to face the modern changes and challenges that characterize this era as well as perform the work required of them to the fullest extent. These skills bring them successful coexistence, adaptation and flexibility, and success in their practical and personal lives. These skills diverse and include all aspects of life, therefore they are important for the learner :

-Assisting the learner in facing life different situation and enable him to deal with them wisely.

-Diversity of life skills that the student needs in various areas of his life, whether it is at home, school or a relationship with others, and possessing these skills gives the student self-confidence, pride and self-esteem when he performs a work and masters it when asked to do so.

- The student's success depends to a large extent on the experiences and skills he possesses. Life skills contribute to linking the student's theoretical and applied study.

-What the students learns helps in one way or another in increasing his motivation.

- Helps the student to identify themselves and discover their relationship with others (Omran and others 67: 2001).

The method of content analysis had its first beginnings in military operations in the late nineteenth century, and there is no precise determination of the emergence of the analysis process, some have mentioned that (Ozel) and his companions are the first who used it in the early thirtieth of the twentieth century starting in 1930 when they were in Colombian press school in America, others have said that the analysis process was an early study in the United States of America and was used by (Sied 1983) in order to compare changes in one of New York press edition after the attempt of New York times to increase newspapers distribution with the least cost. The first half of the twentieth century shows clear interest in analysis process,

The analysis process was concerned with studies and research related to the press, these pioneer studies (Opel Weelds) was after (1940), Studies were carried out based on the analysis process as a scientific method, (Parcos) in (1959) has made a valuable analysis studies (1719) research and study by analyzing the content and was published during the period (1900-1958) after sorting and making appropriate modifications for the purposes of analysis.

The beginning of the second half of the twentieth century in the summer of (1950) to conferences were held to discuss the researches of social science mainly concentrating on analyzing the content.

Regarding the Arab countries, the first to start the process of content analysis are Iraq, Syria and Egypt, the first content analysis study was made by (Mohammed Ibrahim) in (1956), the study was made to determine the prevailing values of a group of students through studying their lives using (white) classification, in the same year another study was made in Iraq by the researcher (Mofaq AL- Hamdani). These studies and research continued to analyze the content to include all educational curriculum. (AL Sa`ady and others 127-126: 2021).

For those reasons the researcher wanted to analyze chemistry curriculum for the preparatory stage according to life skills. The importance of the research is :-

1-Getting to know the reality of the content of chemistry books for the preparatory stage in terms of including life skills.

2-The research is used for the continuous development of curriculums in general and chemistry in particular.

3- The results of this research will direct the attention of specialists and experts towards developing the science of chemistry for the preparatory stage to keep pace with technology and modern scientific directives.

4- This research might be useful in reconsidering the chemistry curriculum for the preparatory stage, which leads to providing learners with life skills, experiences and information by including them in these books..

#### **The Aim of the research:-**

The current research aims to analyze chemistry curriculum content for preparatory stage according to life skills and to fulfill this aim two questions are formed:-

1-What is the percentage of life skills included in the content of chemistry books for the preparatory stage?

2-What are the life skills that should be included in chemistry books for the preparatory stage?

#### **Research limit:-**

The current research is about:-

1-Chemistry curriculum for preparatory stage for (2019 – 2020).

2-Chemistry curriculum for Fourth preparatory stage science branch (2019 -2020).

#### **Define terms.**

First:- content analysis.

Arfa Al sa`ady:- The procedures followed by researchers in the field of study and the main purpose is to define or determine the content with the outermost accuracy. (Al- Sa`ady nd others 28: 2021).

**Procedural definition of the researcher.**

Content analysis processes for the content of chemistry curriculum for the preparatory stage according to life skills by taking the idea with its explicit and implicit branches as a unit of enumeration, analysis and repetition to show the availability of life skills within the content of chemistry books prescribed for the fourth grades of preparatory school, the scientific branch, the fifth preparatory, the applied scientific branch, the fifth grade of preparatory school, the practical branch Sixth-grade preparatory school, applied scientific branch, sixth-grade preparatory school, biological science branch for the preparatory stage.

**Second:- Chemistry curriculum:**

Chemistry books for the preparatory stage issued by the Ministry of Education in Iraq for the academic year (2019/2020 ), which contain the scientific subject of chemistry (Ministry of Education, General Directorate of Curricula).

**Third : School book.**

Arfa Atiya: It is the vessel that contains the educational study material, which is considered as one of the important means to achieve the objectives of the educational curriculum (Atiya, 2013: 24).

**Fourth : Preparatory stage:**

It is one of the two stages that form the secondary school, and it is three years, and the holder of the intermediate certificate or its equivalent is accepted in it, and it develops the tendencies and ability of students and enables them to obtain the highest level of skills and knowledge and deepen the field of applied ideas to pave the way for a scientific life and continue studies in the future (Ministry of Education, 1984: 4)

**Fifth : life skills:**

Fahim has defined them as:It is a set of behaviors that depend on knowledge, information, manual skills, attitudes and values that each individual needs, and are mastered according to his age and the nature of the society in which he lives and his position in this society to interact positively and objectively with the changes taking place (Fahim, 2005: 75).

**Procedural Definition** The researcher defines procedural life skills: the environment that leads to psychological, social and environmental adjustment and compatibility of the individual, such as cognitive, emotional, psychomotor and environmental skills.

**Theoretical background****Content analysis:**

Content analysis is a basic way in which information analysis is based on, in a time that witnesses a massive knowledge revolution which has imposed care and attention in this way and it is one of scientific research methods in order to take care of principle content and standards which leads to analyze the content into (words, phrases or a thought) and describe it as Quantitative and qualitative description in a scientific organized way not based on Self-impressions and random treats. (Mohammed and Reem 11: 2021)

**Procedural steps for content analysis**

- \*• Reading the content of the book in an accurate way in order to clear some stuff up by the researcher`s mind.
- \*• Reading the page in an accurate way in order to identify ideas, principles and word to record the repetition.
- \*• Classify ideas, process or the topic according to the used classification.
- \*• Making tables for the results and tabulating them.
- \*• Making tables for the results and tabulating them.
- \*• Presenting new ideas and topics.
- \*• Determining the study topics consisting of the main and sub-topics.
- \*• Statistical analysis of the results and the extraction of indicators and data for the analysis.

Arranging the study units and concepts according to a logical format commensurate with the educational environment in the study units. This is done by setting a table that includes the unit or the title of the lessons and determining the preparation of the teaching sessions (Abdul Moamen, 2008: 297-299)

**Pros of content analysis:**

Content analysis contain many pros:-

- \*• Not conducting interviews, conducting experiments, or contacting the researcher, due to the presence of the material to be studied in the books.
- \*• The researcher will not affect the information that he analyzes and it remain as it is before, during and after the study is conducted.
- \*• Results of the study could be compared more than once for each phenomenon with other cases and phenomenon. (Alyan 24: 2001).
- \*• Researcher can conduct analysis research at anytime due to the existence of documents , as well as he can refer to them more than once in order to verify them.
- \*• The method of collection in this way reduces the researcher's intended or unintended mistakes, such as forgetting.

This method of information collecting makes the researcher feel he does not leave any human. (Atwi 18: 2009).

**Textbook:**

The concept of textbook: Opinions differed about the role of the textbook in the educational process and its diversity in the past, as it still attracts the attention of many researchers and educators as the mainstay on which the learner relies on learning and the teacher in learning and the source that contributes greatly in providing the learner with experiences, skills, values and trends that contribute to preparing him to life by developing thinking skills that are necessary to face various social, political and economic problems (Al-Jurana, 2004: 53).

Then there were numerous educational and technical improvements to the book, which made it an important educational tool that stimulates thinking and creativity. The book draws the general boundaries of information, concepts and values that students learn, and

the book can determine to a large extent the appropriate teaching methods to be followed in their learning

(Al-Jabri and others, 13:2011.)

The textbook is the official document in which all the components of the curriculum elements crystallize in the modern concept, and it is the backbone of the curriculum, the main reference for the educational process and the translator of its objectives, and it must be taken care of in terms of its specifications (Al-Bouhi, 2018: 73).

### **Importance of the text book.**

Textbook importance is as follows:-

- \*•Textbook is beneficial to learners through clarification , interpretation and guidance.
- \*•Learners will gain skills, execute activities, correct reading and prepare fo exams.
- \*• The content of the textbook employs daily life skills in different situations (Al-Husni, 2011: 349).

### **Chemistry textbook:**

It is the book that contain scientific content on how the elements are united together in order to form different colors from (components) in different circumstances and chemical reactions occur, or it is the book which contain the scientific material and how the elements are united together and form different materials (components) as a result of chemical reactions under different circumstances. (Najdi and others 81: 2002), It also encounters matter and its properties and the changes that occur to it, as well as the energy accompanying these changes (Al-Hasnawi and Adel, 16:2009), and chemistry has multiple classifications, including (biological chemistry, organic chemistry, inorganic chemistry, industrial chemistry, and nuclear chemistry (Quarry: 2012: 42)

### **Life skills:**

**A- skill concept** : it means working accurately, efficiently, fast and easily, it means perfection in performance ,economy ,time and efforts. (Atyia 70: 2013).

(Zyaton 1999) Skill is the individual doing a job with more perfection and less effort in the shortest possible time, which means performing the work with a reasonable degree of speed and proficiency.

### **B- concept of life skills:**

The current era has witnessed several rapid changes which lead to multiple issues and psychological conflict that face the individual and affect his communication with himself and others, There has been a lot of conflict between the factors of evil and good, and wars have increased, corruption has increased, and physical and psychological diseases have varied alike. It is imperative that the individual be highly qualified to confront these conflicts and elevate his personality to achieve the greatest degree of harmony, happiness and mental health. Human cannot live isolated from others, family, friends and collogues, he cannot live without interacting with all sides, and this will not be available unless he has life skills that enable him to deal and interact with others. (Nassir 19: 2017) (Jhonson 1991) says These are processes that are not fixed



but require effective consequences of testing, and they lead to actual health. People who are unable to possess life skills are less able to fulfil their basic needs than people who are more skilled, which includes three dimensions. Cognitive, psychokinetic, and emotional (Jones, 1991: 3), and it is also known as the perceptions, values and performance that invest in life situations regardless of a person's specialization, work and social gender (Ascaris and others, 2005: 19).

### **Importance of life skills.**

Life skills are amongst the necessary and important requirement for the individual in order to adept and keep pace with the rapid changes of the current era, the individual is in need for skills that enable him to live and face life challenges in a more positive way, It also enables him to think constructively about the course of things around him relying on himself in decision making, it also enable him to comprehend the new technological developments. Life skills enable the individual to manage in a successful manner while facing many responsibilities. It also enables him to interact well with members of his community, by reflecting all that with himself enabling him of life skills and use them to form a positive thoughts of himself and others, he can also adept personally and socially, as well as acquire an acceptable degree of psychological compatibility( **Yosif 29: 2015**).

### **Characteristics of life skills:**

**Fahim (2005)** defined life skills characteristic as:-

-Diversity: it includes the material and immaterial aspects related to the methods of satisfying the individual's needs and the requirements of his interaction with life and its development.

-Difference: where life skills differ from one society to another according to different cultures, values, trends and degree of progress, as they differ from one plateau to another, and on this basis, life skills are affected by time and place.

-Degree of influence: life skills depend on the reciprocal relationship between the person and the society in which he lives, and between society and the person and the degree of their influence on the other.

-Interactive: aims to help the individual successfully interact with life and develop ways of living life, which means the need to interact with traditional life situations in new and developed ways.

### **Research Methodology and Procedures.**

This chapter includes a description of the research procedures adopted by the researcher in relation to the analysis of chemistry books for the preparatory stage according to life skills, which includes defining a curriculum, a community and a sample of the research, as well as a description of the research tool used and the process of preparing it and ensuring its validity and reliability, as well as the statistical methods used to analyze the research results.

**Second:- Research community.**

The researcher must specify the research community and the field in which it is taking place. The research community may be part of the book , one book or more books (Al-Saadi, 2021: 139).

The research community consists of chemistry books prescribed for the preparatory stage, the scientific branch in the Republic of Iraq for the academic year (2020/2021) for the fourth scientific grade.

**Research sample:** The researcher used a simple random sample.

Researcher used chemistry book for fourth scientific grade.

Research sample.

Revised pages percentage	Number of revised pages	Total page percentage	Total number of chapters	number of chapters	Year	Edition	Stage	No
28.92%	140	28.68%	148	Five	2019	Ten	Fourth grade	1

Percentage of the number of chapter pages of the book	Number of chapter pages	Chapter sequence	No	No
%18,57	26	Basic concepts in chemistry	First	1
%23,57	33	Gases	Second	2
%16,42	23	Chemical equations and calculations	Third	3
%22,14	31	Organic chemistry	Fourth	4
%19,28	27	Nuclear chemistry	Fifth	5
%100	140	Total		6

**Third : Research tool.**

To achieve the goal of the research, which is to analyze the chemistry books for the preparatory stage according to life skills, the researcher prepared a list of sub-life skills areas included in each field, to be used in the analysis process, by following the following steps.

1-A set of research and literature related to life skills were reviewed.

2-The use of studies specialized in life skills to gain familiarity with the parties of subject.

3-Preparing a list of the main and sub-fields of life skills included in each domain in its initial form (Appendix () as the list included five main domains and (30) sub-skills for the five domains, which are:-

-The first domain / cognitive skills, which included (6) sub-skills.

-The second domain / emotional skills, which included (5) sub-skills.

-The third domain / psychomotor skills, which included (6) sub-skills.

-The fourth domain / social skills, which included (9) sub-skills.

-The fifth domain / environmental skills, which included (8) sub-skills.

Each sub-skill has three indicators, so the total of the indicators is (90) indicators for all areas of life skills branches,

1- Validity of the tool: it means the validity of the tool to measure what it was designed for, which in the content analysis means the validity of the measurement method that the researcher used to measure the content phenomena to be measured and confirm the information required in order to achieve the objectives of the analysis, meaning that the analysis is valid for translating the phenomena that the researcher analyzes in his research (Muhammad and Reem 2012: 117).

**Fourth : Analyzing the content of preparatory stage chemistry book:**

1-The objective of the analysis: to determine the contents of the chemistry books for the preparatory stage, according to the final list prepared for this purpose.

2-Research sample: The sample of the analysis of the content of chemistry books for the preparatory stage represents the scientific branch of the two grades (fourth and fifth in the applied and biological branches) for the academic year (2019-2020 AD) mentioned in the previous table.

3-Analysis unit: It has been relied on the explicit and implicit idea as a unit of analysis by the researcher for its relevance to the nature of the content, the list paragraphs, and repetition as a unit of the census.

4-Content Analysis Steps:

The chemistry books for the preparatory stage were analyzed on the following steps according to life skills:

-Reading the content of chemistry books for the preparatory stage, the scientific branch of the (fourth scientific) grade, as an initial reading.

-Re-reading again is more accurate and comes from reading, a tool for identifying explicit ideas and implicit ideas to enable the researcher to apply the list's paragraphs and areas.

-Unloading the results of the analysis in the list of life skills in its final form, to be interpreted and processed statistically later, which was prepared in advance.

#### **Fifth : validity of the analysis.**

To ensure the validity of the analysis, a sample of the analyzed material for the content of the chemistry book for the fourth grade of middle school, the scientific branch, Appendix (1), was presented to a number of arbitrators (\*) Supplement No. (2) in the methods of teaching chemistry, curriculum and teaching methods, with an explanation of how the idea was extracted and classified within its fields according to the life skills prepared by the researcher in the final list that was prepared in advance. They unanimously agreed on the validity of the analysis, which the researcher considered the validity of the analysis.

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**1-A.Dr Sami Hamid chemistry teaching method\ Al Qadsia university.**

**2-A.Dr Mazin hussian\ life science teaching method\ Al Qadsia university education college.**

**3-Dr Sami Hamid teaching method of chemistry\ Al- Qadsia university**

**4-A.dr Mazin Hussien Arabic teaching method\ Al Qadsia university college of education**

**5-Mohammed Jasim\ Arabic teaching method\ Al Qadsia university college of education**

**6-Mahdi Mohammed Joad\ General Life science teaching method\Babylon university**

**7-Abbass Noor Mohammed\ chemistry\ Babylon university**

Sixth: Stability of the analysis.

To ensure the stability of the analysis in the sense of obtaining the same results even if the analyst differs or the time during which the analysis was performed varies.

1-Agreement between analysts and specialists to work on each of them separately and to reach the maximum degree of agreement with the results when using the same units of analysis.

Seventh: Statistical Means:

Researcher uses two different statistical means :

1-Percentage is a statistical method for calculating frequencies as follows:

)part/ whole x 100(

2- Cooper's equation for calculating stability coefficients, to find out the percentage of difference and agreement between different analysts.

$$p = \frac{Np}{Np + NNp} \times 100$$

P= cooper stability coefficient

Np= The number of times of the agreement

The number of times of the difference= NNp (Aden 16:2013)

### **Presentation and interpretation of results**

#### **What are the life skills that should be included in chemistry books for fifth applied branch?**

#### **Chemistry books for fifth scientific branch (applied).**

The results of analyzing the content of the chemistry book for the fifth grade of preparatory school showed the scientific (applied) branch as shown in the table.

Frequencies of life skills areas and their presence in the chemistry book for the fifth grade of preparatory school, the scientific branch (applied)

Percentage	Frequencies	Skills	No
%49,32	1678	Cognitive skills	1
%9,43	321	Emotional skills	2
%7,55	257	Psychomotor skills	3
%24,30	827	Social skills	4
%9,37	319	Environmental skills	5
%100	3402	Total	6

It is clear from Table (13) that the content of the chemistry book for the fifth grade scientific (applied) achieved all areas of life skills, but with varying percentages, as the first area (cognitive skills) achieved the highest percentage of (49.32%), followed by (social skills) by a percentage of (24.30%), followed by (emotional skills) with a percentage of (9.43%), then followed by (environmental skills) with a percentage of (9.37%), then followed by (motor skills) with a percentage of (7.55%), in light of the results of the above analysis, it can be explained that the cognitive skills obtained a high percentage compared to other skills to a large extent, the social life skills obtained a balanced percentage, and the emotional and environmental skills obtained a very close percentage, which is a small percentage. Psychomotor skills are less than the previous skills. It is noted from the results that it is preferable to reconsider the content of the chemistry book for the fifth grade scientific (applied) to organize and balance all areas of life skills in it.

First: First field\ cognitive skills.

The results of the analysis of the life skills of the cognitive domain showed the frequencies and percentages as shown in the table.()

Frequencies and their presence ratios for indicators of cognitive skills for the fifth grade of middle school, the scientific (applied) branch

Percentage	Frequencies	Skills	NO
%31,64	531	Remembering	1
%25,08	421	Understanding	2
%14,77	248	Application	3
% 5,30	89	Analysis	4
%11,68	196	Composition	5
%11,50	193	Evaluation	6
% 100	1678	Total	7

The results of the table show that the indicators of the cognitive domain achieved all life skills in the content of the chemistry book for the fifth grade of middle school, the scientific (applied) branch. The remembering skill achieved a percentage of (31.64%), followed by the skill (understanding) with a percentage of (25.08). %, then the application skill with a percentage of (14.77%), then the skill (evaluation) with a percentage of (11.50%), followed by the skill (composition) with a percentage of (11.30%), and finally the skill (analysis) with a percentage of percentage amounted to (5.30%).

The researcher interprets these results to achieve all the indicators of the cognitive domain if the skill (remembering) and the skill (understanding) achieve high percentages and the skill (application) achieves an ideal percentage in relation to the number of indicators of the field. The skills (evaluating) and (composition) achieved a close percentage, which is a small percentage. As for the skill (analysis), its percentage is small. Therefore, the content of the applied science chemistry book for the fifth grade should be reconsidered in organizing, balancing and coordinating the sub-indicators of life skills, Figure (8) illustrates a graph showing the indicators of the cognitive domain (remembering, understanding, application, analysis, application, evaluation) and the percentages of their presence in the chemistry book for the fifth grade of middle school, the scientific (applied) branch.

Second, emotional skills.

The results of the analysis of life skills in the emotional domain showed the frequencies and percentages as shown in.

Frequencies and percentages of emotional domain indicators for the applied science fifth grade chemistry book

Percentage	Frequencies	Skills	NO
%32,71	105	Reception	1
%31,77	102	Response	2

%14,081	45	Evaluating	3
%21,049	69	Organizing	4
%0	0	Self-regulation	5
%100	321	Total	6

It is clear from the results that the applied science fifth grade chemistry book achieved four skills, as the (self-organization) skill did not achieve any repetition, and the (reception) skill achieved a percentage of (32.71%), followed by the response skill with a percentage of (31.77%). Then came the skill (organization) with a percentage of (21.49%), and finally the skill (evaluation) with a percentage of (14,081%).

The above results can be explained if the reception and response skills achieve two close percentages and these two percentages are high, and the organization skill achieves a balanced percentage in relation to the sub-skills of the emotional domain, and the evaluation skill achieves a small percentage.

Through the shown percentage of the result of the chemistry book for the fifth scientific applied branch, Reorganizing and balancing its sub-indicators in this field,

Figure (9) shows a graph showing the indicators of the (emotional) domain (reception, response, evaluation, organization, self-regulation) and the percentages of their presence in the chemistry book for the fifth grade scientific (applied).

Third, psychomotor skills.

The results of the analysis of life skills in the psychomotor domain showed the frequencies and percentages thereof, as shown in the following table.

Frequencies and percentages of life skills for psychomotor indicators of the chemistry book for the fifth grade of preparatory school, the scientific (applied) branch.

Percentage	Frequencies	Skills	No
%46,19	120	Observation	a
%5,44	14	Imitation	b
%15,95	41	Experimenting	c
%14,39	37	Practice	d
0%	0	Perfection	e
%17,50	45	Creativity	f
%100	257	Total	g

The results showed that the chemistry book for the fifth year of middle school, the scientific (applied) branch, achieved five sub-skills in the field of psychomotor, except for the skill (perfection), where the skill (observation) achieved a percentage of (46.19%), while the skill (creativity) achieved a percentage of (17,50%) followed by (experimentation) skill which achieved

(15,95%) percentage, (practicing) skill achieved (14,39%) percentage, finally (imitation) skill achieved (5,44%) percentage.

These results explain that observation skill has achieved a high percentage compared to other sub-skill, the next three sub –skills (creativity , experimentation, practicing) have achieved a close balanced percentage, while imitation skill has achieved a low percentage, therefore the content of chemistry book for the fifth preparatory scientific (applied) branch need to be re-organized and balanced in order to achieve the coordination among the skills of this field.

#### Fourth \ Social skills.

The results of the analysis of life skills in the social field showed the frequencies and percentages thereof, as shown in the table.

Frequencies and Percentages of Social Domain Indicators for the Chemistry Book for the Fifth Grade Preparatory Scientific Branch (Applied)

Percentage	Frequencies	Skills	No
%21,52	178	Participation in group scientific activities with the teacher	a
%19,34	160	Commitment to work while performing scientific activities	b
%4,59	38	Appreciation of scientists in the service of humanity	c
%20,49	169	Develops the principle of social justice among students	d
%20,91	173	Contributes to the acquisition of positive social behaviors by student	e
%11,72	97	The content relates to life situations relevant to the student's reality	f
%1,45	12	Emphasizes the importance of using human resources	g
%100	827	total	h

The results showed that the chemistry book for the fifth grade of middle school, the scientific branch (applied), included all explicit and implicit life skills in the social field,

The skill (Participation in group scientific activities with the teacher) achieved percentage of (21,52%), followed by (Contributes to the acquisition of positive social behaviors by student) with a percentage of (20,91%), followed by (Develops the principle of social justice among students) with a percentage of (20,49%), then (Commitment to work while performing scientific activities) with a percentage of (19,32%), the skill of (The content relates to life situations relevant to the student's reality) achieved a percentage of (11,72%) followed by (Appreciation of scientists in the service of humanity) with a percentage of (4,59%) then the skill of (Emphasizes the importance of using human resources) with a low percentage of (1,45%).



Through the results of the analysis, the results can be interpreted as the skills (a, e, d) achieved a close percentage and higher sub - skill percentage which considered high percentage, the skill (b) achieved a balanced percentage, the skill (f) achieved a low percentage as well the skill (c) also achieved a low percentage, the skill (g) achieved a very low percentage, therefore the content of chemistry book for fifth scientific (applied) branch must balance these sub- skills in a coordinated way.

### Fifth \ Environmental skills.

The results of the analysis showed the life skills in the environmental field, its frequencies and percentages, as shown in the table.

Frequencies and Percentages of Environmental Field Indicators for the Chemistry Book for the Fifth Grade Preparatory Scientific (Applied) Branch

percentage	repetitions	skills	
%71,15	227	The use of environmental materials in scientific activities	a
%0	0	Conservation of environmental resources	b
%25,07	80	The use of some activities, materials and chemical compounds in our daily life	c
%1,88	6	Participation in scientific activities to serve the environment	d
% 1,25	4	Use of clean, waste-free energy	e
% 0,62	2	Waste recycling and sorting again	f
%100	319	total	g

The result showed the achievement of five sub-skill for environmental skills in which the skill (Conservation of environmental resources) did not achieve any frequency, the skill (The use of environmental materials in scientific activities) achieved the highest percentage (71,51%) followed by (The use of some activities, materials and chemical compounds in our daily life) which achieved (25,07%) percentage, followed by (Participation in scientific activities to serve the environment) skill with (1,88%) followed by (Use of clean, waste-free energy) skills which achieved (1,25%) finally (Waste recycling and sorting again) achieved (0,62%) percentage.

Through the above results, it is noted that there is a large discrepancy in the percentages of skills in this field and its sub-indicators, where skill (A) achieved a very high percentage as it represented almost three-quarters of the percentages of these skills branches, and skill (C) achieved a high percentage and this skill is important for daily activities and uses. The three skills (D, E, F) have low percentages, and the two skills (A, C) have high percentage, therefore it is necessary to re-organize the content of chemistry for fifth preparatory scientific (applied) branch in order to balance and coordinate its important sub-skills that serve the environment and energy, providing raw materials, not neglecting waste, and setting up manufacturing programs for it so that the benefit can be benefited from the raw materials and rid the environment of its disadvantages and the provision of raw materials to be used in multiple industries, figure (12) shows a graph showing the indicators of the (environmental) field (A, B, C, D, E, F) and the

percentages of their presence in the chemistry book for the fifth grade of preparatory school, the scientific (applied) branch.

### **Conclusions**

From the results indicated by this research, the researcher reached the answers to the research questions according to each of the five areas, as follows.

#### **-The first area is cognitive skills:1**

The results showed the interest of the three books in the cognitive skills of the fourth preparatory scientific and fifth grades scientific (applied and biological), and the books were verified for all skills included in this field.

**2-The second area is emotional skills:** The results showed the achievement of all emotional skills in this field from all three chemistry books for the fourth scientific and fifth scientific grades (applied and biological) with average percentages, and this indicates an increase in the inclusion of these important skills in these books.

**3- The third area is psychomotor skills:** The results indicated that the chemistry books for the three grades achieved all the skills included in this field with an average percentage. This indicates an increase in the percentage of these important skills because they are skills that also require coordination and synergy according to the organs of the body, the human mind and his nervous system.

**4-the fourth area is social skills:** The achieved results indicated the interest of the three books in developing the social skills of the learners, as the chemistry books for the fourth scientific and fifth grades scientific (applied and biological) achieved all skills in this field with a good percentage, these important skills meet the learners among themselves and encourage them to serve and develop the community.

**5-The fifth area is environmental skills:** The results showed the achievement of all the skills included in this field in the three books, and this indicates that the books achieved important skills for the use of environmental materials and their daily uses.

### **Recommendations:**

From the results that the researcher reached in this research, the researcher recommends the following.

1-Taking into consideration the low life skills percentage in chemistry books for preparatory stage.

2-Taking into consideration integration, consistency and balance in the proportions of including life skills areas in chemistry books for the preparatory stage.

### **Suggestion:**

1-Conduct a similar study to analyze (science) books and chemistry books for the third intermediate

2- Conduct similar study to analyze (Biology, Physics, Mathematics) for secondary stage according to life skills.

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