

Analysis of the Content of the Chemistry Book for the Second-Grade Medium According to the Aesthetic Approach

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Research extract

This research aims to analyze the content of chemistry books for the middle stage according to the aesthetic approach of the academic year (2020-2021). To achieve this goal and after reviewing a series of literature, studies and research, a list was prepared in its initial form on the main issues of beauty standards and principles to be included in the chemistry books for the middle stage, where it included (42) indicators distributed on (12) major issues, as it was presented to a group of experts and specialists in curricula and teaching methods to see its validity, thus the list in its final form of (33) indicators distributed on (12) major issues To represent the research tool, the researcher then analyzed the content of the chemistry books for the middle stage according to the pre-prepared list, The analysis included the content of three books and several pages, the researcher adopted the idea unit for recording and repetition unit of the census, and the researcher presented a random sample of analysis to two experienced arbitrators to represent the sincerity of the analysis, where they agreed on the validity of the analysis, and then the researcher calculated the stability of the analysis with himself after a period of time, and with outside analysts using the equation (G-Cooper), and one of the most important findings reached by the researcher is that the chemistry book for the third grade medium is the most addressed book for aesthetic approach issues in total Its number repeats (402) repeats, followed by the chemistry book for the middle first grade with a total of repetitions (202) repetitions, and comes in the last place the book chemistry of the middle second row with a total of repetitions number (189) repetitions. In light of the results of the research, the researcher recommended:

- 1-The researcher recommends that some issues that were low in the content of middle-level chemistry books be further included.
- 2-Call on chemistry curriculum preparers to take advantage of the results of the current research in the development of the content of the chemistry curriculum.
- 3- The researcher recommends chemistry teachers teach the cognitive content of chemistry books to suit the aesthetic approach by employing educational strategies that emphasize beauty.

Problem of the Research:

The progress and development of any country depend on the educational system, which is the main pillar of the various political, cultural, and economic systems of society, and the curriculum is one of the most important components of the educational system, which contributes to providing the learner with knowledge and information, developing his abilities and talents as well as instilling values and trends Positive, and as societies change and develop, the curriculum must evolve to be a reflective

image of the culture of that society, the development of the textbook has a key role in the educational process, the textbook must be distinguished by its meaning and in keeping with scientific developments to be more effective. Contribute to the overall and integrated development of learners.

Looking at the content of chemistry books within the study stages can give us a vision of many complex and expanded topics, but has this number of topics being able to keep pace with the rapid changes in society, which in turn lead to changes in the needs of learners and keep pace with the requirements of the times?

From this point of view, the Directorate General of Curricula in the Ministry of Education has made changes in many curricula, especially science courses including chemistry for the middle stage, so many studies went to analyze these books, through the researcher's modest experience (8 years) in teaching chemistry, and informing him of many studies such as the Study of Abdul Hamid (2009), the Study of Babin and Issa (2010), Mahmoud's Study (2012), Younis study (2012) The Study of Sharbassi (2013), Ismail's Study (2014), the Nobby Study (2019), the Study of Ahmed et al. (2020), and the study of Mohammed, and Abdul Aziz (2020), which dealt with the importance of adopting the aesthetic approach in the teaching of science, the researcher noted (as far as he knows) the lack of studies on the analysis of the content of science books involving chemistry and the new author of the middle stage in light of the aesthetic approach.

Based on the above, the researcher tries to put the hands of interested, educators and specialists on the concepts and knowledge necessary to develop awareness and the need to include the aesthetic approach in the chemistry curriculum and books of the middle stage, which contributes to its development, the preparation of a generation of builders capable of creating a better society and to discover new methods Education/learning strategies in chemistry subjects aesthetically and artistically to improve the intellectual, educational and creative level, and the ability to stimulate their abilities to taste, develop them for the better, thus going a long way in improving the performance of learners and their high understanding and awareness.

In light of this, we can identify the problem of research with the following question:

How much does the content of chemistry books guarantee for the middle stage of the aesthetic approach?

Theoretical importance

1-This study is the first in Iraq (as far as the researcher knows), which dealt with the analysis of the book chemistry of the second grade medium in the light of the aesthetic entrance.

2-Proposing new strategies and methods for teaching chemistry according to the aesthetic approach.

3-Emphasizing the importance of the emotional aspects of students and benefiting from them in teaching.

4-Developing aesthetic values that suit the age of students.

5-The current research contributes to highlighting the aesthetic aspect of the learner's personality, which may have been neglected previously.

6-Highlighting the aesthetic and artistic aspects of science topics.

Applied importance:

1-Linking the concept of aesthetic approach with science, especially chemistry, to benefit and improve it in the development of the material.

2-Opening the way for researchers to other studies dealing with chemistry curricula in preparatory.

3-This study dealt with one of the modern entrances in scientific education, namely (aesthetic approach), and this is in line with the trends in the development of education.

4-The study provides a tool for analyzing the content of science books containing chemistry for the middle stage according to the aesthetic approach.

5-This study can be used by the Ministry of Education, which is represented by specialists and curriculum supervisors, to draw out what they see fit in the development of chemistry books for the middle stage in the light of the aesthetic approach.

Search limits:

The limits of the current search were limited to knowledge and scientific boundaries:

The first, second, and third unit, which includes the chapters (first, second, third, and fourth) of the book of science, part one, for his application for the second middle grade of the academic year (2020-2021) the composition of the Committee of the Iraqi Ministry of Education, i (3) for the year 2019.

Time limits

School year (2020-2021).Term selection: Definition of the Terms

Content analysis1-

-Salama (2001): "It is the fragmentation of content into its elements that make it up so that the order of ideas and the relationship between them appear."(Salama, 2001)

-Al-Hashimiand Mohsen (2009): "It is a method used to describe the apparent content and explicit content of the material to be analyzed in terms of form and content in response to the needs of research, with the analysis process being carried out in an orderly manner on objective methods and criteria and based mainly on data collection, tabulation, and analysis in a quantitative manner." (Hashimi and Mohsen, 2009)The researcher theoretically agrees with the definition (Hashemi et al, 2009) and defines it procedurally..

-A research method aimed at an objective, systematic and quantitative description of the content (chemistry books for the middle stage), for the academic year (2020-2021) issued by the Ministry of Education/Directorate General of Curricula in Iraq in the light of (aesthetic approach), to know the extent to which they are included in these books through the list of analysis prepared for this purpose.

2-Textbook: Custom of both:

-Chalabi (2000): "It is one of the means used in implementing detailed courses of the school curriculum". (Chalabi, 2000)

-Al-Luqani (2013): "It is the vessel that includes the content of the subject to be taught to students and the concept of the book may expand to include various books and accompanying materials from

which the student receives knowledge such as printed educational means, training manuals, and a student calendar guide and may include the teacher's guide".(Al-Luqani, 2013).

The researcher theoretically agrees with the definition (Al-Luqani, 2013), and the textbook is procedurally defined :

These are the science books containing the subject of chemistry and scheduled by (Ministry of Education/ Directorate General of Curricula in Iraq) on middle school students, for the academic year (2020-2021).

- Aesthetic Approach: Known by

-Al-Tali (2014): "An entry point that goes hand in hand with the logic and philosophy of science in interpreting phenomena and scientific fields in addition to adding the idea of enjoying the study and research of science." (Talli, 2014)

-Hanan (2017): "An entry point for the preparation of teaching programs through which the elements of beauty in science appear from a system, arrangement, proportionality, symmetry, live movement, diversity and contrast, alone and accuracy, etc., making science teaching more enjoyable and suspensible and even through which alternative concepts can be corrected and visual thinking and aesthetic taste developed." (Hana , 2017).

-The researcher knows it theoretically: that it is an introduction that deals with the interpretation of many scientific phenomena, facilitating their explanation and simplification in order to generate pleasure, happiness and a sense of contentment in the human soul, by relying on the principles and standards of beauty such of rhythm, consistency, system, balance, diversity, harmony and simplicity.... etc..

-It is known procedurally: as an entry point for interpreting many scientific phenomena of the content of chemistry and facilitating its explanation and simplification to generate pleasure, happiness, and satisfaction in the human soul, based on the principles and standards of beauty of rhythm, consistency, system, balance, diversity, harmony and simplicity.... etc.

Theoretical background

Aesthetic Approach

The definitions of aesthetic approach in the literature of the field are based on being an important element in the teaching process so that the aesthetic atmosphere prevails in teaching, where this entrance invests the innate human need for beauty and is seen

To scientific knowledge as an integrated knowledge in its entirety, he surrounded the educational process, and instilled elements of beauty in it, by basing on a broad base of principles and foundations that constitute the beauty in its entirety to teach the scientific material, including rhythm, harmony, diversity, sovereignty, unity and employment, and this makes the learner more sophisticated and advanced civilization because the concept of beauty is linked to order, unisonance and, thus achieving the balance of the personality of the learner and achieving the good of the individual and society (Saleh et al, 2018).

Aesthetic Approach philosophy:

1-The aesthetic approach emphasizes that the teacher is the artist who facilitates the growth of his students as scientists and artists, where there is no full mental activity without sense and aesthetic perception.

2-The study of science through the perspective of the aesthetic approach achieves the pleasure and joy of the learners, by emphasizing the emotional aspects, which acts as a motivation for accomplishing tasks to make science a source of beauty.

-3-Aesthetic approach is an ongoing process associated with life and increases human interaction with the environment, society, and the universe, and supports the multiple intelligences of learners. (Mr et al, 2019)

4-The aesthetic approach is an entry that goes hand in hand with the logic and philosophy of science in interpreting multiple and diverse scientific phenomena.

5-The aesthetic approach emphasizes the idea of motor rhythm in scientific phenomena, all scientific phenomena have a dynamic rhythm even in the energy of the situation " atoms are in harmony with each other in the energy of the situation until this energy is released and transformed into another image.

6-Aesthetic approach is one of the entrances that can be used to understand scientific phenomena in their multiple and overlapping dimensions. (Abdul Hamid, 2009)

7-The aesthetic approach is human, meaning that man is the only being given by God almighty the ability to feel beauty in all aspects of life around him, which gives reassurance and happiness to human souls.

8 - The aesthetic approach is a theatrical and sudden entry that pulls the learner into the world through mental interactions and discoveries " (Stranger, 2019)

-Aesthetic approach objectives: Many studies on aesthetic approach have indicated that it has achieved a range of desired goals, including:

Development of aesthetic awareness and sensory awareness.-

-Developing an individual's balanced and integrated personality and raising moral values.

-Access to social solidarity and harmony of human relations.(Master, 3013)

-Motivate students to learn and enjoy it, and create a passion for the world around them.

Simplifying the material and making it accessible to students.-

-Develop a sense of pleasure in students, and a sense of the beauty of the subject.

-Developing moral behavior and preserving the beauty of the environment. (Mr et al, 2019)

The importance of the aesthetic approach:

-Development of multiple and diverse aesthetic values by natural phenomena.

- Contributes to the development of taste, sentencing, and the formation of tasting criteria.
- Contributes to facilitating the learning of subjects at different stages of education.
- Works on the cohesion of scientific ideas, objects, and concepts. (Career, 2018)
- It is a regulatory framework for building. and implementing the curriculum to achieve the objectives of science education.
- Helps the learner enjoy aesthetic and artistic aspects in various paths of science.
- Confirms the aesthetics and aspects of appreciation. (Hassan, 2018)According to the researcher, the use of aesthetic approach in education helps students to:
- Simplifying scientific phenomena and facilitating their explanation.
- Increase learners' self-confidence.-
- The impact of learning remains as long as possible in the learner's memory.

Contributes to the series of ideas logically.

The foundations of the aesthetic approach:

,indicates that the aesthetic (Abdul Hamid, 2009) entrance has a set of foundations that distinguish it from other entrances used in education:

1-Emphasizing the great concepts and unifying the structure of science: she explained that the use of major concepts as a focus for building science curricula preserves the unity of the structure of science and helps students understand the importance of science and its role in their lives.

2-Taking into account the level of mental development of each study stage: that each study stage has different developmental characteristics and mental nature, and the aesthetic approach plays an important role, in taking into account these characteristics, by describing the nature of the physical learner, mental, cognitive, emotional.

-3-Diversity in the use of teaching methods: including both the construction calendar and the final calendar, where students' acquisition of major scientific concepts is evaluated through their worksheets and achievement files.

(Ismail, 2014) points to some of the foundations of the aesthetic entrance:

4-The use of teaching methods that touch the emotional aspect of students: it refers to the use of several methods that help students to show the beauty of science through their understanding of scientific phenomena and topics aesthetically.

5-The use of educational means and activities that highlight the aesthetics of scientific topics: it explains the need to focus on the use of educational activities and means that highlight the aesthetic point in science topics.

First: Research method:

The researcher used the descriptive-analytical method, to analyze the content of chemistry books for the middle stage according to the aesthetic approach, because it depends on the study of the phenomenon as it exists, and is interested in being an accurate description, or expresses it in quantity and qualitatively. (Assaf, 2006)

The researcher adopted content analysis, one of the survey methods in the descriptive method, because it is important to reveal the extent of interest in the content.

Second: Determining his research sample: The researcher took a community appointed by the content of the middle second-grade book in the Republic of Iraq for the academic year 2020-2021, after excluding introductions to books, indexes, tables, and questions at the end of the seasons as described in(Table 1).

Number of pages analyzed	Total pages	Number of classes	Edition and Year	Title of the Book
40	60	4	Third, 2019	Science Student Book for Middle-Grade II (Part 1(

Third: Research tool: to achieve the objectives of the research and for this research to have a tool under which the content of middle-stage chemistry books is analyzed requesting the construction of the tool: [the chemistry book analysis tool for the middle stage (analysis list), where the researcher reviewed some previous studies dealing with the aesthetic approach, where he built a list of issues of aesthetic approach to be provided in the chemistry book for the second middle grade, and presented it to a group of arbitrators He reached a list of the most important aesthetic issues and indicators of each case in its final form as described in (Table 2).

(Table 2) list of key issues and indicators of each case prepared by the researcher for analysis.

%	Repeating the main issue	Repeat indicators	Secondary issues	Sequencing	Key issues	sequencing
			Highlight the beauty of rhythm and dynamic sequence in the great concepts or any part that falls under.	1	Rhythm	1
			Interpret many scientific phenomena and facilitate their explanation, through movement between right and left	2		
			Learn about the quality of the bonds that bind different elements	1	Consistency	2
			Determine the ratios of parts to each other in size, shape, and color ... etc	2		
			Developing a student's ability to meditate on nature	3		

			Develop the student's ability to see forms and phenomena in an integrated holistic manner	1	System	3
			Dynamically and interestingly present concepts and facts	2		
			Developing the student's ability to research, explore and investigate	3		
			Learn about the behavior or order of the items and vocabulary that have been followed to reach the goal or to achieve the desired function.	4		
			Develop the student's ability to balance things, realize and understand the relationships between blocks and spaces in a simple and easy way	1	Balance or proportionality	4
			Realizing the importance of balance in drafting laws, and writing equations	2		
			Show the beauty of shapes through the regular distribution of elements in the blanks	3		
			Develop the student's ability to know the diversity of the elements and characteristics of the subject or scientific phenomenon.	1	Diversity	5
			The importance of diversity in human life	2		
			Training the student in research and investigation into the beauty of nature	1	The importance diversity in man life	6
			Develop the student's ability to find a common aesthetic trait between the elements.	2		
			Highlighting the main idea of concepts, shapes, images, and equations	3		
			Aesthetic photos and drawings	1	Unisonance or compatibility	7
			Show the compatibility between colors, font, shape, direction, numbers, and properties between objects and multiple shapes.	2		
			The ID of properties shared between single group elements	3		
			Give the student accuracy in observing and interpreting phenomena and things	1	Accuracy	8
			Accuracy in locating and preparing the parts and components of the phenomenon.	2		
			Accuracy in the selection of parts	3		
			The accuracy of drawings, images, symbols, numbers and the extent to which they express the real phenomenon, laws, and sports relationships	4		

			Distinguish between things and interpret certain phenomena.	1	Contrast	9
			Enable students to compare things in terms of shape, function, color, and composition etc	2		
			Enabling students to connect different things, and show the beauty of the composition	3		
			Draw the student's attention to something specific and show its importance	1	Sovereignty	10
			Employ the shape in communicating the idea attractively	2		
			Identifying materials in their initial form	1	Simplicity	11
			Develop the ability of students to find a common aesthetic trait among the elements	2		
			Develop the student's ability to organize parts in a balanced way away from randomness	1	Harmony	12
			Highlighting the beauty of the consistent ape of its elements in balanced distribution.	2		
	Total					

-Determining the spoken percentage of aesthetic issues included in the chemistry book for the second intermediate grade: to judge the results of the analysis of chemistry books for the middle stage according to the aesthetic approach, and for the lack of a spoken percentage in scientific sources a group of arbitrators specialized in chemistry, curricula, and teaching methods, and asked them to determine the percentage that is supposed to be included in chemistry books for the middle stage, and the average percentages were as in(table 3)

Table (3) Spoken Percentages

The case	%
Rhythm	6.07
Consistency	8.29
System	9.79
Balance or proportionality	8.5
Diversity	9.36
Unit	9.29
Unisonance or compatibility	8.14
Accuracy	10.21
Contrast	6.71
Sovereignty	7.07
Simplicity	7.55
Harmony	9

Analysis steps: The researcher followed the following steps to analyze the chemistry books for the middle stage: where he read the topic as a whole thoroughly and accurately to form a clear picture of it and then determine the idea that includes aesthetic issues, and then he identified the paragraphs that include the idea and identified the category to which each idea belongs, i.e. the application of the registration unit, and finally unload the results of the analysis in the special form in the analysis, by

giving one repetition of each paragraph carrying a sub-issue For statistical processing.

The analysis was confirmed: To confirm the sincerity of the analysis carried out by the researcher, a model of the analyzed material of the content of the chemistry book for the first middle grade (1.2) was presented to a group of arbitrators in teaching methods and they agreed on the validity of the analysis, which the researcher prepared insincerely for the analysis he did.

Stability of analysis: For the analysis to be objective or close to objectivity and to reduce the analyst's self and to obtain acceptable stability, the researcher used the two types of

stability

1-Stability over time: The researcher re-analyzed the middle second-grade book a month after the preliminary analysis and analyzed it twice, where the value of the stability factor (93.33) was using the Cooper equation.

2-Agreement between analysts: The researcher hired two external analysts, experienced and competent, who were trained in the analysis process, and a percentage (20%) were selected. From the total analyzed material, the value of the stability factor between the analyst and another analyst (86.36), and between the researcher and the other analyst (90.45), thus preparing the stability factor well.

View and interpret results

--Results of analysis of the content of the chemistry book for the second middle grade.

By analyzing the content of the chemistry book for the second middle grade, it was found that the chemistry content of the middle second grade addressed all the main issues as follows:

-The first main issue (Rhythm): consisting of two indicators, and got repetitions number (2), and by (1.06%), thus gaining the twelfth place.

-The second main issue (Consistency): consists of (3) indicators, and got repeats number (23), and by (12.17%), thus winning third place.

-The third main issue (System): consists of (4) indicators, got repeats number (30), and by (15.87%), thus gaining first place.

-The fourth main issue (Balance or Proportionality): consists of (3) indicators, and got repeats number (14), and by (7.41%), thus winning seventh place.

-The fifth main issue (Diversity): consists of two indicators, and got repeats number (25) and by (13.23%), thus winning second place.

-The sixth main issue (Unit): consists of (3) indicators, and got repeats number (12), and by (6.35%), thus winning the ninth place.

-The seventh main issue (Unisonance): consists of (3) indicators and got repeats number (10), and by (5.29%), thus winning the tenth place.

-The eighth main issue (Accuracy): consists of (4) indicators, and got repeats number (18), and by

(9.52%), thus winning fifth place.

-The ninth main issue (Contrast): consists of (3) indicators, and got repeats number (22), and by (11.64%), thus winning fourth place.

-The tenth main issue (Sovereignty): consists of two indicators, and got repeats number (4), and by (2.12%), thus winning the eleventh place.

-The 11th main issue (Simplicity): consists of two indicators and got repeated numbers (16) and by (8.46%), thus winning fourth place.

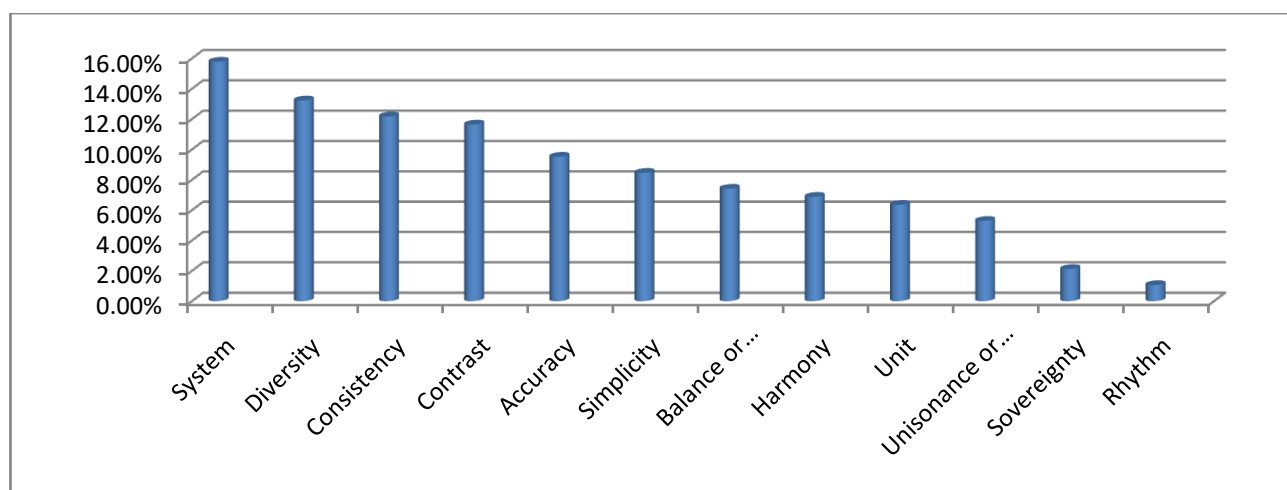
-The 12th main issue (Harmony): consists of two indicators, and got repeats number (13), and by (6.88%), thus winning eighth place.

From these results, we note that the total repetitions obtained by the chemistry book for the second grade average of all major issues amounted to (189) repetitions, and ranged from (1.06% - 15.87%), and was arranged downwards as described in(Table 10).

Table 10 ranking of the main issues of the middle second-grade book according to its descending ratios.

Grade	Percentage	The main issue
1	15.78%	System
2	13.23%	Diversity
3	12.17%	Consistency
4	11.64%	Contrast
5	9.52%	Accuracy
6	8.46%	Simplicity
7	7.41%	Balance or proportionality
8	6.88%	Harmony
9	6.35%	Unit
10	5.29%	Unisonance or compatibility
11	2.12%	Sovereignty
12	1.06%	Rhythm

shows Chart(4) data repetitions of key aesthetic issues in the content of the chemistry book for the middle second grade.



Shape Number (4)

Data frequency ratios for key aesthetic issues in the content of the chemistry book for the middle second grade.

Comparing the percentages of the results of the analysis with the spoken percentages of the arbitrators:

The percentages of the results of the chemistry book content analysis for the average first grade were compared according to the aesthetic entry with the spoken percentages of the arbitrators as shown in table supplement No. (21).

Annex 21 shows a relatively different percentage of the results of the analysis than the spoken percentages of the arbitrators as shown in the following:

-Concerning the first aesthetic issue (Rhythm), it was found that the percentage of the results of the analysis was lower than the percentage spoken and relatively far from it, indicating a decrease in its achievement and lack of chemistry book content for the second-grade average, as well as showing from the table the preservation of the same rank.

- Concerning the second aesthetic issue (Consistency), it was also found that the percentage of results of the analysis is greater than the percentage spoken and slightly away from it, indicating that it is achieved in the content of the chemistry book for the second-grade medium, and focusing on it a little, as well as showing the table the difference of rank between them.

-Concerning the third aesthetic issue (System), the percentage of results of the analysis is found to be greater than the percentage spoken and relatively far away, indicating that it is achieved in the content of the second-grade chemistry book medium, as well as the focus on it more than the other paragraphs, as well as the different rank between them.

- About the fourth aesthetic issue (Balance or proportionality), it is found that the percentage of results of the analysis is relatively close to the spoken percentage, indicating that they are achieved in the content of the middle second-grade chemistry book, as well as the difference in rank between them.

-Concerning the fifth aesthetic issue (Diversity), the percentage of results of the analysis is higher than the spoken percentage, indicating that it is achieved in the content of the middle second-grade

chemistry book, indicating a greater focus on it than other issues, as well as the difference in rank between them.

-Concerning the sixth aesthetic issue (Unit), the percentage of results of the analysis is found to be lower than the spoken percentage, indicating a decrease in its achievement in the content of the middle second-grade chemistry book, as well as the difference in rank between them.

- Concerning the seventh aesthetic issue (Unisonance or compatibility), the percentage of results of the analysis is lower than the spoken percentage, indicating a decrease in the content of the middle second-grade chemistry book, as well as the difference in rank between them.

-About the eighth aesthetic issue (Accuracy), it is found that the percentage of results of the analysis is approaching the spoken percentage, indicating that it is achieved in the content of the second-grade chemistry book average, and the percentage also indicates the difference in rank between them.

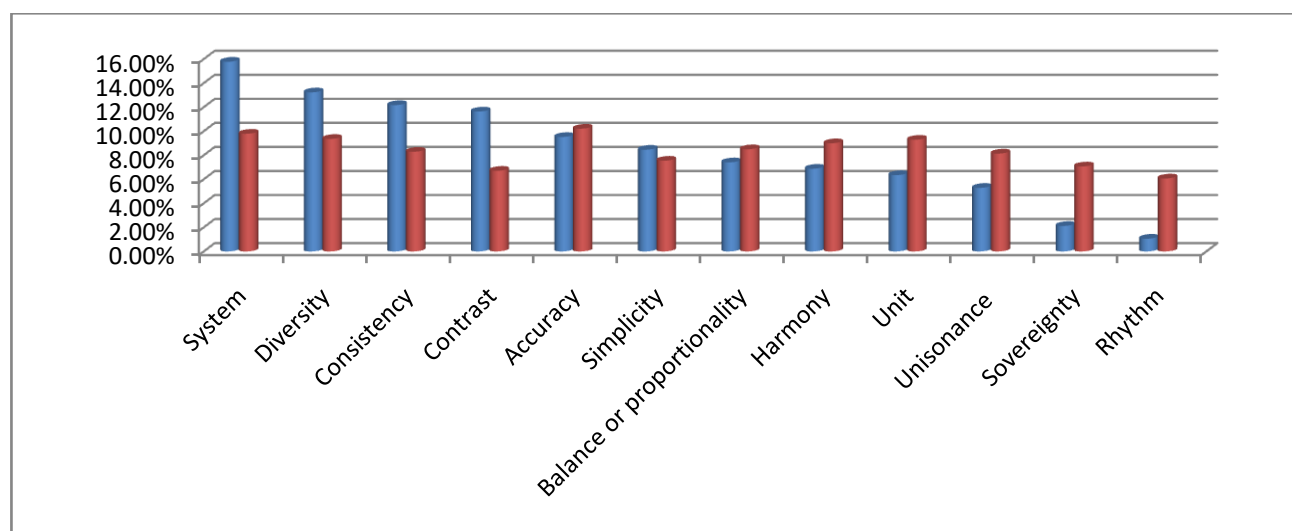
-About the ninth aesthetic issue (Contrast), the percentage of results of the analysis is relatively higher than the percentage spoken, indicating that it is achieved in the content of the second-grade chemistry book average, and the ratio also indicates a greater focus on them than other issues, as well as the difference in rank between them.

- About the tenth aesthetic issue (Sovereignty), the percentage of results of the analysis is relatively lower than the spoken percentage, indicating a decrease in its achievement and lack of content in the second-grade chemistry book, as well as the difference in rank between them.

About the eleventh aesthetic issue (Simplicity), the percentage of results of the analysis is close to the spoken percentage, indicating that they are achieved in the content of the middle second-grade chemistry book, as well as the difference in rank between them.

- About the twelfth aesthetic issue (Unisonance), the percentage of results of the analysis is relatively lower than the spoken percentage, indicating a relatively low achievement and decrease in the content of the middle second-grade chemistry book, as well as the difference in rank between them.

Figure (5) shows the comparison between the percentages of results of the average second-grade book analysis with the spoken percentages.



Shape Number (5)

Comparison of percentages of results of the average second-grade book analysis with percentages

Conclusions:

Through the results presented in advance in this chapter, the researcher reached the following conclusions:

- 1-The total repetitions of the second-grade chemistry book average (189) repetitions.
- 2-The third aesthetic issue (System) ranked first in terms of the number of repetitions in the middle second-row book where it got repetitions number (30) repetitions, and the first issue (Rhythm) got the lowest number where the number of repetitions (2) repetitions.
- 3- The percentages of availability of aesthetic issues in the chemistry book for the second-grade average ranged from (1.06% - 15.87%), indicating that the content is not included in aesthetic issues equally, as well as the sovereignty of one issue at the expense of other issues.

Recommendations

:In light of the results of the study, the researcher recommends

- 1-The researcher recommends that some issues that were low in the content of the middle-grade chemistry book be further included.
- 2-Call on chemistry curriculum preparers to take advantage of the results of the current research in the development of the content of the chemistry curriculum.
- 3- Teaching the cognitive content of chemistry books by employing educational strategies that suit the aesthetic approach.

propositions

The researcher suggests the following:

- 1-Take advantage of the list adopted to analyze the content of the second-grade chemistry book according to the aesthetic approach in analyzing the content of chemistry books for other stages.
- Conducting a study to analyze the books of other courses such as biology and physics according to the aesthetic approach.
- 3- Conducting a comparative study between the content of chemistry books in Iraq for a certain stage and chemistry books for the same stage in other Arab countries according to the aesthetic approach.

Sources

1. Abdul Hamid, Amani Mohammed (2009) The effectiveness of aesthetic approach in teaching biology to develop some major scientific concepts, and the opinions of students and teachers in the middle school towards its use. master's degree, Faculty of Quality Education, Ain Shams University. 16-19.
2. -Al Hashimi, Abdul Rahman, and Mohsen Ali Attia (2009): Comparing the educational curriculum in the Arab world and the world, I1, University Book House, United Arab Emirates. 141.
3. -Al-Luqani, Ahmed Hussein (2013): Curriculum between theory and application, i4, World of Books For Printing, Publishing, and Distribution, Cairo. 37.

4. Al-Tali, Rabab Shawky Ismail (2014): The effectiveness of an aesthetic-based program in teaching home economics to develop innovative thinking and a tendency towards materialism for middle school students, unpublished master's degree, Helwan University, Egypt. 175.
5. -Assaf, Saleh bin Hamad (2006): Entrance to Research in Behavioral Sciences, I4, Al-Abikan Library, Riyadh.236.
6. Chalabi, Ibrahim Mahdi (2000): The curriculum built implemented by its development calendar using models, i1, Al Amal Publishing, and Distribution House, Irbid. 93.
7. Eisner, e, (2005): back to whole. educational -2Leadership, 63(1), 14-18.
8. -Gharib, Ali Mohammed (2019): Using the aesthetic approachin teaching mathematics to develop a sense of humor and aesthetic taste in fifth-grade students, journal mathematics education, 22(2). 93.
9. Ismail, NarimanJuma (2014): The effectiveness of teaching a proposed unit in science using the aesthetic approachto the development of aesthetic values and the love of survey and achievement among middle school students, Doctoral thesis, Faculty of Education, Zagazig University. 37.
10. -Mr. Madiha Hamdi and Rasha Hassan Awad (2019): Teaching home economics using the aesthetic approachto develop meditative thinking and ethical values among female vocational preparatory students, Third Scientific Conference (International II) Qualitative Studies in Arab Societies (Reality and Hope) Zagazig University March(2-3). 345-391.
11. -Muhammad, Nooran Saeed Mohammed (2018): The impact of using the aesthetic approachin teaching history to develop the dimensions of taste and some values among the students of the second episode of basic education, the journal of the Faculty of Education Department of Curriculum and Teaching Methods, Ain Shams University. 245-260.
12. Saleh, Manar Ali Hassan and Ahlam Mahmoud Matalqa (2019): How effective is the teaching of Islamic education in light of the aesthetic approachin developing the trend towards it among 11th graders, The Islamic University Magazine for Educational and Psychological Studies, 27 (2). 748-766.
13. -Celtic, Firas (2008): Learning strategies, theoretical education, and application, wall of the world book, Oman.
14. -Hanan, Mustafa Ahmed (2017): A program proposed according to the aesthetic approachin the teaching of science using a proposed strategy and its impact on the correction of alternative concepts and the development of visual thinking and aesthetic scientific taste for students of the Faculty of Education, Egyptian Journal of Scientific Education, 20 (10). 1-13.
15. -Hassan, Manar Ali (2018): Teaching Islamic education in the light of the aesthetic approachand its effectiveness in the formation of value building and the development of cognitive achievement and the trend towards its study, Doctoral thesis, Faculty of Sharia and Islamic Studies, Yarmouk University. 6.
16. -Salama, Abdul Hafiz Mohammed (2001): Communication and education technology, I3, Dar al-Fikr, Amman.151.
17. -Sayed, Ahmed Abdul Hamid (2013): The effectiveness of using the aesthetic approachin teaching social studies in the development of meditative thinking skills among middle school students, master's degree, Faculty of Education, Ain Shams University. 30-32.