

An Evaluation of 'Our Arabic Language' Book for the Third Grade according to Visual Thinking Skills: Analytical Study

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Abstract: This study aims to identify the visual thinking skills needed for third-grade students in the primary stage and to evaluate Our Arabic language textbook according to these. To this end, a list of visual thinking skills was prepared and then converted into a tool for content analysis. The study sample consisted of all the pictures, drawings, and figures contained in the content of Our Arabic language book, amounting to (146) figures. Adopting the descriptive analytical approach, the results showed that Our Arabic Language book included visual thinking skills in general, but in a low percentage. The study recommends that emphasis be placed on including more visual thinking skills and finding a balance in the distribution of these skills.

Keywords: Visual Thinking Skills, Evaluation, Our Arabic Language Book, Content Analysis.

1. INTRODUCTION

One of the most crucial factors that affect human education and thinking is the curriculum they are taught with its important elements and distinctive skills and types. Therefore, curricula specialists seek to introduce contemporary issues and skills into textbooks to play an important role in achieving sustainable human development. All kinds of thinking skills are among the basic skills that contemporary education seeks to develop among learners. Modern educational trends emphasize the importance of providing learners with thinking skills and practicing them, and perhaps visual thinking skills represent one of the thinking forms that has received wide attention in the educational area.

Accordingly, teaching thinking has become a general goal of education in developed countries. Contemporary education aims to teach students how to think and learn well, and these objectives are among its first priorities. Thus, students have the possibility of self-learning and continuous learning that keeps pace with scientific changes. Therefore, they must be taught thinking skills following clear steps that are commensurate with their age and stage of development, comprehension, and ability. This vision depends on what the researchers and scholars indicated that the ability to think can be acquired, not only it is an innate skill, in addition to that teaching thinking skills has achieved positive results and increased students' self-confidence [1], [2].

Considering the components of the educational system of any human society, it can be noted that the curriculum is one of the most important components, and accordingly, educational institutions depend on achieving the goals of society. In light of this, the national language of nations occupies a prominent place in their curricula, because it is the first factor that unites the members of the nation, and in fact, it is often the main reason for naming the nation by its name. For example, Frenchmen are known for their French language, German men speak German, and the Arabic language has its sacred place among its people [3].

Through language, generations inherit the experiences of their ancestral and predecessor's experiences as language is at the center of human events. It is the language that shows and continues to show discoveries, inventions, and fine literature. In language, we conduct the affairs of our daily lives, and it plays the main role in human communication. It is one of the other sciences that scholars have paid attention to, being related to the social, psychological, and biological aspects of humans and society [4].

Arabic is a language that has a privileged place in education, and it is not limited to learning it and acquiring its skills only, but it is based on its role in the entire educational process, as it is the gateway for learners to receive new knowledge in all sciences and fields that they receive or deal with. In this sense, language is an essential component of the overall educational process, because this process depends on the language in formulating the content of its sciences and designing the process of academic communication between parties [5].

In this context, the distinguished textbook is what makes students more ready and eager to learn the material. It also comforts teachers and makes them satisfied with what their students get. This can be achieved by designing the textbook or curriculum on structured scientific grounds because education requires the selection and organization of information, commensurate with the needs of learners [6].

On the one hand, evaluating textbooks is determining the value of the book's content, in addition to its strength and weakness in order to direct the course of its design and implementation and direct its topics toward achieving the desired goals in the light of standardized and controlled measures. There are many tools for evaluating books such as content analysis, observation, monitoring lists, tests, conferences, and scientific research, among other tools [7].

On the other hand, it is necessary to emphasize that thinking in the current era is one of the biggest variables in light of the rapid change and development in the field of education because it is linked to the success of people and their acquisition of skills, and therefore the development of society. So, the thinking process is associated with behavior, as it requires people to actively engage in various activities that generate important ideas and knowledge, conduct critical analyzes, and make effective relationships [8]. Arnheim is considered the first to use the term visual thinking in his book entitled *Visual Thinking* in 1969, where he defined it as an attempt to understand the world using the language of form and image [9].

Visual thinking is defined as the effective use and organization of mental images of shapes, colors, texts, graphics, and diagrams [10], [11]. It is an internal process that includes mental and intellectual perception and employs other processes related to the other senses in order to organize the mental images that people imagine in relation to shapes, lines, formations, textures, colors, and other elements of visual language within the human brain [12].

Therefore, we find that teaching thinking is an urgent need imposed by today's situation, and attention is no longer limited to the effort to help students acquire knowledge, information, facts, and educational concepts, but rather exceeds their mental capabilities to develop thinking skills. Moreover, Visual thinking, which relies on images, diagrams, forms, films, and animations that connect the eyes and the brain, is one of the most important thinking skills, in addition to fantasies and the creation of images [13], [14]. Figure (1) below shows the four steps of visual thinking:

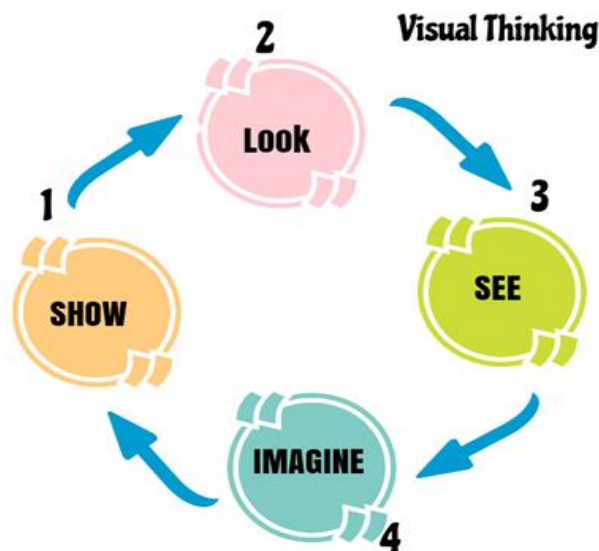


Figure 1: Steps of visual thinking

Through the steps of visual thinking lies the importance of integrating its skills in the context of academic subjects and in developing the self-esteem of learners as a result of the conscious control of thinking and its employment in different fields, in addition to the diversity of forms of application of thinking skills in different educational fields, which helps learners apply skills in different life environments. In this way, the process of teaching the content of textbooks becomes two steps integrated into a single step, and this increases students' motivation to learn [15].

Because visual thinking depends on what the eye sees and the subsequent processes that take place within the human brain in terms of analyses and comparisons, it is regarded as one of the most important types of thinking because the effect of this interaction in the human memory is kept for a period that exceeds keeping the effect resulting from any other type of thinking. In other words, our visual perception of what is around us provides the basis for knowledge [16], [17].

The importance of visual thinking is due to the vital role it plays in the educational process. It develops the ability to solve problems and helps students to understand, organize, and employ information in the study materials, and develops the ability to innovate and produce new ideas and the ability to visualize. This also helps in forming positive attitudes toward reading and understanding abstract concepts and related processes. It also links information and ideas in the form of visual shapes and symbols, which makes it easier to absorb and understand [2].

Based on the importance of evaluating the content of textbooks in light of thinking skills, including visual thinking skills, specifically in the first primary stage of students' life and for the significant role of experts who design different curricula, and in response to the directions of the Hashemite Kingdom of Jordan to develop the elements of the educational system, including the curriculum component, it was and still necessary to evaluate the books taught in our educational institutions, and *Our Arabic language* book that is taught in the first primary stage graders is an important example. All of such was a motive for conducting this study in more detail in light of the impressive recent developments witnessed by the current educational system and the global crises.

Among the studies that were conducted to study visual thinking in different curricula is the one conducted by Al-Jabali and Al-Shraida (2022) [18]: who aimed to identify the level of including visual thinking skills in the history textbook for the seventh grade in Jordan. To achieve the aim of their study, a list of skills for visual thinking was created, and in light of it, the content of the history textbook for the seventh grade was analyzed. The results showed that the highest inclusion of visual thinking skills was in the first part of the book, where it got the highest total frequencies, reaching (56), while the second semester got a total of (51). The highest number of skills was the skill of reading visual figures in both parts of the book, and according to the total frequencies, the skill to link relationships in the visual form received the least amount of competence.

Both Jassim and Jassim (2020) [19]: conducted a study to investigate the extent to which visual thinking skills are included in the mathematics textbook for the fourth grade of the primary stage. A list of the main visual thinking skills and sub-skills was prepared, and after analyzing the content of the textbook, the results showed that all main visual thinking skills are included in the book. The skill of interpreting information in a visual form ranked first, followed by the skill of analyzing visual forms in second place, then the skill of reading visual forms in third place, and finally the skill of inferring meanings from the visual form. This shows that different amounts of visual thinking abilities are included in the mathematical material of the fourth grade mathematics textbook for elementary school.

Al-Salami (2020) [20]: conducted a study to investigate the extent to which visual thinking skills were included in the science curriculum for the fifth grade of primary school in the Kingdom of Saudi Arabia. The content of the textbook was analyzed after preparing a list of visual thinking skills and converting it into a content analysis form. The results of the study found that visual thinking skills' inclusion was low in the science book's content for the fifth grade.

Another example is the study of Natel (2019) [21]: who sought to determine how much the math's textbook for the lower primary stage included visual thinking skills and the extent to which fourth-grade students acquired them. The content of the mathematics textbook was analyzed through the content analysis tool and the design of the visual thinking skills test. The results of the study found varying ratios of inclusion of visual thinking skills and the non-inclusion of some skills such as connecting relationships, analyzing information, and extracting meanings. The study recommended that balance in distribution, sequencing, and inclusiveness be taken into account.

Al-Alusi (2019) [22]: conducted a study to identify the visual thinking skills included in geography textbooks for the middle stage in Iraq, and a content analysis card was designed that included the following visual thinking skills: reading, visual discrimination, visual perception, and visual analysis. The study sample consisted of the content of geography textbooks for the middle stage. The results showed that the textbooks included (232) frequencies of visual thinking skills, and the skills of "reading and visual discrimination" ranked first, and the skills of "visual analysis" ranked last. The book of the fifth grade ranked first as it included (90) frequency of visual thinking skills, and the book of the sixth grade ranked last with (52) frequency of visual thinking skills. The results also showed that there was no balance in the distribution of visual thinking skills in the geography textbooks for the middle school in Iraq.

Abu Salem (2019) [23]: conducted a study aimed at revealing visual thinking skills in the eighth-grade social studies book, where both parts of the book were analyzed by means of the content analysis tool. The results showed that the book has an interest in visual thinking skills in general, but these skills vary in their inclusion rate. The study recommended a reconsideration of the weak areas of visual thinking skills in the social studies textbook for the eighth grade.

Al-Dulaimi (2017) [24]: conducted a study to know the percentage of including visual thinking skills in geography books for the intermediate stage in Iraq. The study sample consisted of questions and activities from geography books for the first, second, and third intermediate grades. To achieve the objectives of the study, the researcher prepared an analysis tool that included visual thinking skills, divided into three areas: reading and visual discrimination skills, visual analysis skills, and visual perception skills. The results showed that the geography books for the intermediate stage included visual thinking skills in varying proportions, the highest is the third-grade intermediate book, and the lowest is the second-grade intermediate book.

When reviewing the previous studies presented, it can be found that they showed the evaluation of the different curricula in light of visual thinking skills, such as the study of (Al-Jabali & Al- Shraida [18]; Al-Salami [20]; Natel [21]; Al-Alusi [22]; Abu Salem [23]; Al-Dulaimi [24]).

Many things used in the previous works were taken advantage of, such as theoretical literature, procedures, and some study tools, such as the Natel study [21]. This study is distinguished from other previous studies as it evaluates the Arabic language curricula specifically for the third grade in light of visual thinking skills, and thus its purpose, sample, and tool are unique. This constitutes a modern research area in education that is related to the study of evaluating *Our Arabic Language* book for the third grade considering visual thinking skills. Previous studies

did not discuss or address the analysis of *Our Arabic Language* book in light of visual thinking skills. This study agrees with previous studies that indicated the importance of including visual thinking skills in the curriculum.

2. STUDY PROBLEM AND QUESTIONS

The problem of the study is the complaints made by the teachers of the first three grades about the lack of pictures and shapes in the book *Our Arabic Language* for the third grade in particular, and this was an opportunity to conduct a study to analyze the content of the book, and to the best of the researcher's knowledge, no scientific study was conducted on this subject, so this study was unique in its tools and samples. Secondly, the study was motivated by the global interests in teaching and acquiring thinking skills for students, including visual thinking, in addition to the importance of the textbook in the process of learning and teaching. So, this study aims to shed light on the efforts of the Ministry of Education in Jordan to compose the book *Our Arabic Language* for the third grade by experts, so that it can be applied in the field in light of global concerns. The problem of the study lies in its endeavor to analyze the aforementioned book in its two parts and the visual thinking skills it contains with the aim of obtaining accurate data that may benefit decision-makers in improving this book.

The problem of the study can be determined by answering the following research questions:

1. What are the visual thinking skills that should be included in *Our Arabic Language* book for the third grade?
2. What is the inclusion rate of visual thinking skills in *Our Arabic Language* book for the third grade?

2.1. Objectives of the study

The study aims to achieve the following:

1. Building a list of visual thinking skills that should be included in *Our Arabic Language* book for the third grade.
2. Detecting the level of visual thinking skills included in *Our Arabic Language* book for the third grade.

3. METHOD AND PROCEDURES

3.1. Study methodology

The descriptive approach was adopted in a content analysis method that relies on studying the phenomenon as is and is concerned with describing it accurately and expressing it qualitatively or quantitatively.

3.2. Study population and sample

The study population consisted of *Our Arabic Language* book for the third grade in its two parts (first and second) and used in the Hashemite Kingdom of Jordan for the academic year 2022/2023, which consists of (17) lessons. The study sample consisted of all the visual forms included in the book such as images, drawings, shapes, and diagrams, among others which amounted to (146) visual shapes in the whole book in both parts. Table (1) below shows this.

Table 1: Distribution of lessons and visual forms in *Our Arabic Language* book (Parts One and Two) - Edition 2

Part	Lessons	Visual forms	Pages
First	8	70	90
Second	9	76	100
Total	17	146	190

3.3. Study tool:

The current study used a list of visual thinking skills to serve as the study tool, and then it was converted into a content analysis card. Below is a detailed description of how the tool was built and its psychometric properties were verified.

First: List of visual thinking skills

The list was created using the following procedures:

- The objective from the list of visual thinking skills that should be included in *Our Arabic Language* book for the third grade was determined.
- The sources for preparing the list of skills were identified by referring to previous studies that agreed to include visual thinking skills in textbooks, such as the study of Jassim and Jassim [19] and the study of Natel [21], in addition to consulting educational resources and literature, and considering the advice of professionals and experts. The teacher guide of *Our Arabic Language* book for the third grade was also consulted to review the objectives of the book's content.
- The veracity of the list of skills was verified by presenting it to arbitrators to consider their opinions and suggestions and modify it accordingly. The skills in their final form amounted to six main skills.

Second: Content Analysis Card

Referring to the material in the third-grade Arabic language textbook for the academic year 2022–2023, the pictures, drawings, figures, tables, and conceptual diagrams contained in the first and second parts of the book were analyzed according to the extent to which visual thinking skills were included by following the steps below:

1. Analysis steps:

- Determining the subjects to be studied in *Our Arabic Language* book, in its two parts, for the third grade.

2. Determine the unit of analysis:

The visual form was adopted as a unit of analysis. It includes all visual forms in the first and second parts of the book and includes color pictures, shapes, conceptual diagrams, drawings, and tables, among others.

3. Defining analysis categories:

The list of visual thinking skills included in the analysis card.

4. Calculating the validity of the analysis:

- **Validity of the arbitrators:** To ensure an appropriate degree of validity of the analysis to be achieved for the visual thinking skills in *Our Arabic Language* book for the third grade, the analysis list was developed based on the study questions and the results of previous specialized studies in this field. The list of visual thinking skills and the list of content analysis were presented to a group of arbitrators and educators specialized in the Arabic language and its teaching methods, a group of university professors, educational supervisors, and teachers of the first three grades. Based on their opinions, the necessary modifications were made, and they unanimously agreed on its validity and that it has a high degree of honesty.

5. Stability of the analysis tool:

The pictures, shapes, drawings, and tables contained in *Our Arabic Language* book for the third grade were analyzed according to the list of visual thinking skills. Another teacher analyzed the same book in its two parts, and the coefficient of agreement between the researcher's analysis and the teacher's analysis was calculated using the Holsti equation (1969) [25]: below.

$$\frac{CR = 2M}{N1 + N2}$$

The stability coefficient for the current study was (92.10%), and it is considered a high stability coefficient.

6. Analysis procedures:

All visual forms included in parts one and two of *Our Arabic Language* book for the third grade were analyzed and included color pictures, figures, and tables, among others.

The analysis data, its frequencies, and percentages for each of the visual thinking skills were entered in tables.

The triple Likert scale was used to indicate the level of including visual thinking skills in *Our Arabic Language* book for the third grade, namely high (3), medium (2), and weak (1), and calculate the medium of the categories by dividing the number of categories, which is (3), by (100). The answer is (3.33) for each category as shown in Table (2).

Table 2: Distribution of scale categories

No.	Scale Categories (Description)	Percentage %
1	Weak	0.01- 33.33
2	Medium	33.34-66.66
3	High	66.67-100

Statistical processing methods: The researcher employed the frequencies and percentages approach to compute the percentage of agreement in order to fulfill the study's objectives and assess the information gathered.

4. STUDY RESULTS AND DISCUSSION

The answer to the first question :What are the visual thinking skills that should be included in *Our Arabic Language* book for the third grade?

In order to answer this question, the educational literature, previous studies, and published research that dealt with visual thinking skills at different levels of study and various courses were reviewed, and a list of six basic skills for visual thinking was concluded, as it agreed with most studies such as the study of Jassim and Jassim [19] and the study of Natel [21]. The list of skills was presented to a group of arbitrators and experts, and after the modifications made, the list came out in its final form as shown in the following table and figure:

Table 3: List of visual thinking skills and their concept

No.	Skills	its concept
1	Visual reading	The skill of determining the nature of a form or image and its dimensions
2	Visual discrimination	The skill of recognizing a form or image and distinguishing it from other forms and images
3	Visual interconnection	The skill of seeing the relationship of compatibility and inaccuracies with pictures and forms
4	Visual interpretation	The skill of clarifying the meanings of images and forms
5	Visual analysis	The skill of focusing on the fine details of images and shapes and analyzing their elements
6	Infer meaning	The skill of inferring new meanings and arriving at concepts and principles through images and shapes

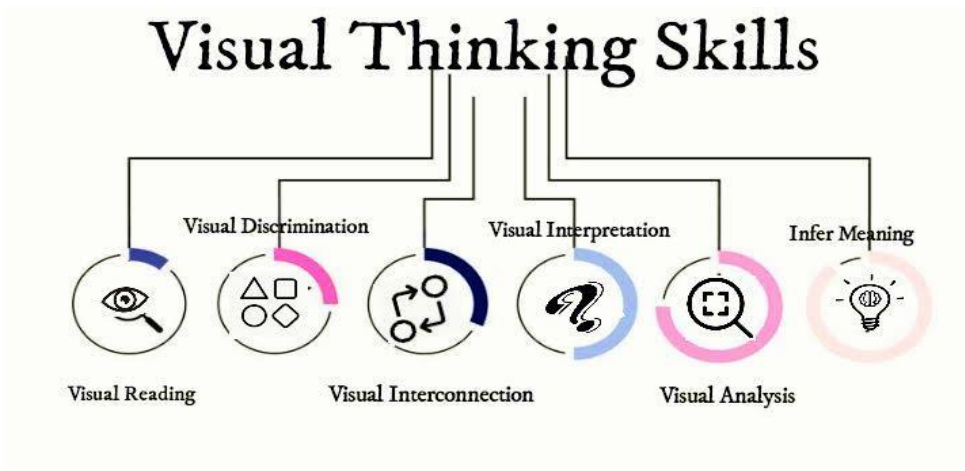


Figure 2: Visual thinking skills under study

It is worth mentioning that, considering the list and the previous figure, the selection of these skills and designing them in their final enable those in charge of the educational process can provide students in the third grade with different visual thinking skills, as it was mentioned in the previous list six main skills that ranged from visual reading to the skill of inferring meaning where these skills are integrated and coherent.

The answer to the second question: What is the inclusion rate of visual thinking skills in *Our Arabic Language* book for the third grade?

To answer this question, frequencies, averages, and percentages were calculated and arranged according to frequency, and their category was determined as shown in Table (4).

Table 4: Frequencies, averages, and percentages of visual thinking skills mentioned in the two parts of *Our Arabic Language* book for the third grade ordered and categorized

No	Skill	Frequencies	Percentages	Order	Level
1	Visual reading	52	35.616%	1	Middle
2	Visual discrimination	44	30.136%	2	Weak
3	Visual interconnection	18	12.328%	3	Weak
4	Visual interpretation	10	6.849%	5	Weak
5	Visual analysis	13	8.904%	4	Weak
6	Infer meaning	9	6.164%	6	Weak
Total		146	100.00%		Weak
**Percentages average: 16.66%					

**Total percentages divided by the number of skills: $100/6 = 16.66\%$

Frequencies and percentages were calculated for each part of the book and its lessons separately, as shown in Table (5) below.

Table 5: Frequencies and percentages of visual thinking skills for each part of the book and its lessons separately

Book	Lessons	
	Number of Lessons	Number of Lessons
Part 1	8	-
Part 2	-	9
Total	70	76

Book	Lessons	
	Number of Lessons	Number of Lessons
visual shapes		
Percentages	47.06%	52.94%

In Table (4), which shows the results of the extent to which visual thinking skills are included in the Our Arabic Language book, the number of visual shapes in the entire book was (146) visual forms and the arithmetic mean for including visual thinking skills, in general, was.(16.66)

Table (5) shows the results of frequencies and percentages of visual thinking skills for each book and its lessons separately. It is clear that the second part of the book includes more visual thinking skills than the first part, as the frequencies in the first part were (70), with a percentage of (47.06), while in the second part, the frequencies were (76), with a percentage of (52.94). This indicates that visual thinking skills were more included in the second part of Our Arabic Language book for the third grade than in the first.

By referring to Table 4 and Table 5, it can be noted that the skills varied in the number of frequencies and their percentage, as follows:

The visual reading skill ranked first with (52) frequencies and a percentage of (35.616), which is considered a medium percentage by reference to the criterion in Table (2). This can be due to the pictures at the beginning of the lessons that promote students' thinking about the visual ideas that will help them understand the lesson. These pictures express the lesson's objective clearly by highlighting its basic features and avoiding distractions, which is a basic skill that contributes to students' acquisition of advanced visual thinking skills. However, it is considered insufficient in its inclusion level for the students of the first three grades. This outcome is also in line with research by Al-Jabali and Al-Shraida [18].

The skill of visual discrimination took second place with (44) frequencies and a percentage of (30.136). It is considered a weak percentage by referring to the criterion in Table (2). The reason may be due to the lack of instructing students to distinguish between forms and images, as they were only asked to display them. This skill must therefore be supported and incorporated more frequently, as these forms and images and their nature must be identified by the student. Many studies confirmed the importance of the skill of visual discrimination, such as the study of Al-Alusi [22], which showed the importance of this skill for students, as it ranked first.

The skill of visual interconnection ranked third with (18) frequencies, with a percentage of (12.328). Referring to the criterion in Table No. (2), it is considered a weak percentage. This is due to the fact that the connection between the visual forms was below what was hoped for, as the process of connecting the new information with the old information known to the students was neglected. This facilitates a better understanding of the visual forms and the linking between them. This also facilitates the process of storing information in the students' long-term memory. The skill of visual interconnection is considered an essential skill for linking concepts and finding relationships, and this was confirmed by the study of Natel [21], as it agrees with the result of the study of Al-Jabali and Al-Shraida [18].

The visual analysis skill ranked fourth with (13) frequencies and a percentage of (8.904), and by reference to the criterion in Table (2), it is considered a weak percentage. This is because this skill requires a high concentration of students to see the smallest details, noting that most students focus on generalities or commonalities and ignore the small details. Therefore, there is a clear scarcity in the percentage of its inclusion in *Our Arabic Language* book, so the content must be formulated in a way that allows students in the first three grades to analyze and draw a conclusion. This finding is in line with Alusi's study [22].

The skill of visual interpretation has the fifth place with (10) frequencies and a percentage of (6.849), and by reference to the criterion in Table (2), it is considered a weak percentage. One of the abilities that is underutilized in our Arabic language textbook for the third grade is this one, and the reason for obtaining this weak percentage may be due to the lack of sufficient symbols, signs, marks, and data that some visual forms contain that clarify information because of the benefit in facilitating the process of analyzing it to reach its interpretation. It also helps in deepening the understanding and reflection of the visual form in order to get new knowledge through the existing

information, and thus students are fully able to master the skill of interpretation. This is a reason for the interest of the book developers in this skill to increase the attraction and excitement of students.

The skill of inferring meaning ranked the last with (9) frequencies and a percentage of (6.164). It is considered a weak percentage by referring to the criterion in Table (2). It is the least used skill because this skill depends on all previous skills that require analysis, interpretation, looking at details, and realizing the connection between them. So, if the analysis and interpretation are inevitably weak, there is a poor inferring of meaning. This result is consistent with Jassim and Jassim's study [19].

Overall, it becomes clear that the visual thinking skills included in *Our Arabic Language* book have a weak total score, and this result also reflects a weak level in including these skills. This result does not correspond to the fact that the books of the first three grades, including the Arabic language, must contain graphics, pictures, forms, and charts sufficiently in their presentation of information. It does not correspond to the outputs of the stage and its interest in analysis, interpretation, and inferring, in addition to the fact that those in charge of designing books and visual forms did not employ the results of research and studies related to visual thinking skills when they included them.

The visual reading skill fell in the medium range according to the criterion in Table (2). It is considered a basic and important skill in the content of the Arabic language, and it included everything that was included in our third-grade Arabic language textbook, such as color photographs, shapes, conceptual diagrams, drawings, tables, etc. As for other skills, i.e., visual discrimination, visual interconnection, visual analysis, visual interpretation, and inferring meaning, respectively, they were all in the weak range. Despite the fact that they are included in our Arabic language textbook for grade three, there is no balance in the distribution of these skills, and they were used in varying proportions.

The issue of the inclusion level of thinking skills in general and visual thinking skills in particular remains in the consideration of all the various academic investigations according to their nature and specificity, making them a specific line of thought for curricula design and development. It is also a matter of interest sought by the Ministry of Education, and a position of development and improvement on which the authors and designers of the curricula at the Center Curriculum development rely.

5. RECOMMENDATIONS

According to the study's conclusions, the following steps are recommended:

1. The third grade edition of *Our Arabic Language* book needs to put more of an emphasis on teaching visual thinking abilities.
2. Finding the right balance when including visual thinking skills into *Our Arabic Language* book for the third grade is important.
3. The emphasis should be on developing the ability to compare meanings, particularly with regard to the visuals in *Our Arabic Language for Third Grade*.
4. More attention should be paid to images in terms of making them more clear and more relevant (symbols and signs; clear colored data, and relationships between them) to help achieve visual thinking skills.
5. The focus should be on appropriate methods for developing visual thinking skills in the preparation programs for male and female teachers of the first three grades.

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