The Familiarity of Preparatory Stage Arabic Language Teachers of Higher-Order Thinking Skills

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Abstract

The study aimed to find out the degree of practicing Arabic language teachers in the preparatory stage of higher-order thinking skills from their point of view in the first, second and third Baghdad Rusafa directorates of education. The descriptive survey method was used. The study population consisted of teachers of the Arabic language in the directorates of Baghdad, Rusafa, First, Second and Third, and the sample number was (284) teachers. A questionnaire was built on higher-order thinking skills. The validity and reliability of the tool were verified, after which the scale was applied to the research sample of (116) schools and (168) teachers who were randomly selected from the schools affiliated to the Baghdad Education Directorates Rusafa First, Second and Third, and the results were shown using the SPSS statistical program for social sciences (23). and the Microsoft Excel program in data processing, and the results were as follows: There is a knowledge of the Arabic language teachers in the directorates of education of Baghdad, Rusafa, first, second, and third, with high-ranking thinking skills in the preparatory stage, and there are statistically significant differences in the degree of practice of Arabic language teachers in the directorates of education of Baghdad, Rusafa. The first, second, and third skills of high-ranking thinking are attributed to the variables of gender, experience, and educational qualification.

Keywords: higher order thinking skills, Arabic language teachers

Problem Statement

Since the teacher is the primary focus through which generations grow and plays the primary role in raising and educating generations, teaching and providing them with the necessary information, knowledge, and skills that enable them to raise and educate themselves was the problem of the study that emerged from the traditional methods, means, and methods used to teach the Arabic language in middle schools in Baghdad. This importance alone is insufficient unless the responsible authorities take the initiative to put this concept into practise by creating the appropriate climate and appropriate material and moral conditions, so that the teaching profession becomes a distinctive and unique profession. By raising their scientific and professional level and the effects of that on the material level generally.

The rest of the other professions are not a traditional profession (Berton, 2009, p. 46).And since the thinking process is no longer an individual process carried out by each individual in isolation from others, it has become necessary in light of the changes and challenges facing all societies for the individual to learn how to think collectively in light of a group of different disciplines (Dolibas and Villamor, 2013, p. 49).

The significance of teaching Arabic and the need to make clear the fundamental issues Arabic language teachers have when first putting their teaching techniques into practise. contribute to resolving this issue, and in light of these observations, the research's challenge might be framed in terms of resolving the following query: What level of preparation for higher-order thinking skills are Arabic language teachers familiar with?

Significance of the Study

The world witnessed rapid changes and a huge knowledge explosion in various fields of scientific knowledge and an amazing development in information and communication technology that changed many prevailing social values and concepts and brought about fundamental changes in the conditions of society, and it became clear to develop Students' thinking is one of the most important goals of teaching social sciences Because of its great role in activating the mind of the learner and stimulating his mental abilities, which contributes to the development of his various thinking skills, including the skills of high-ranking thinking, which was dealt with in many theoretical and philosophical writings by explaining, analyzing and applying, and higher-ranking thinking is a method that generates many solutions, as it is It includes many forms of thinking such as: critical thinking, systemic thinking, and creative thinking (Merry et al., 2007,p.355). The development of the learner's scientific sense increases his ability to solve problems better and faster, and then he can overcome deficiencies in his mental performance. It also develops perseverance, responsibility, independence, self-confidence, accuracy in performance, cognitive awareness, and the ability to make the appropriate decision in daily life situations (Dolibas and Villamor, 2013, p. 48).

It is obvious from the foregoing that the development of advanced thinking abilities is essential in all facets of life. The use of thinking skills does not take place in a vacuum or apart from any particular material, according to psychologists. In order to help students improve their ability to think critically, numerous educational methods and techniques have been developed. within the parameters of the learning objectives.

And that the use of modern strategies that focus on the positive role of the learner can help in this, and therefore the need to apply modern theories in the field of education and psychology, and to design programs based on these theories such as the theory of successful intelligence, and to employ them in an optimal way in the teaching and learning processes.

Aims of the Study

The current research aims to:

- Detecting the effectiveness of higher-order thinking skills among Arabic language teachers in the preparatory stage.
- Building a measure of mastery of Arabic language teachers for the preparatory stage according to high-ranking skills.

Limitations of the Study

Arabic language teachers in Baghdad Education Directorates, Rusafa First, Second and Third.Human limits: The study is limited to a sample of Arabic language teachers in the directorates of Baghdad Education, the first, second, and third Rusafa for higher-order thinking skills in the directorates of Baghdad Education, the first, second, and third Rusafa.

Time Limits: This study was conducted in the second semester of the academic year 2022/2023.

limits of the place: The study was applied in the public schools affiliated to the directorates of Baghdad Education, Rusafa First, Second and Third.

Hypotheses of the Study

Ho1: There are no statistically significant differences at the level of significance (a = 0.05) in the degree of Arabic language teachers' practice of higher-order thinking skills due to (gender, experience, academic qualification)
Ho2: There is no knowledge of the Arabic language teachers in the research sample with higher-order thinking skills.

Definitions of terms

Thinking:

DeBono (1985) defines it as: "the process that applies intelligence to experience, that is, it includes the ability to use inherited intelligence and bring it into reality, as it refers to the insightful or careful discovery of experience in order to reach the goal.", And he defined it (Al-Atoum and Al-Jarrah, 2017): Thinking is a hypothetical concept that refers to an internal process, attributed to a selective, intentional, cognitive, interactive mental activity directed towards an issue, making a specific decision, satisfying a desire to understand, finding meaning, or An answer to a question, and the individual's thinking develops according to his surrounding environmental conditions.

Procedural definition: a mental process in which the learner develops through mental interaction processes between the individual and the experiences he acquires, with the aim of developing cognitive structures and reaching new assumptions and expectations.

Higher order thinking:

Definition (Resnick, 1987, p.32): Detailed mental activities that require mental trial and analysis of complex situations according to multiple criteria, and include multiple solutions, and avoid simple solutions or formulations. Clarity of meaning or experience

Definition of Al-Rimawi and others (2011): "Thinking that enables us to understand the world around us and to understand how things happen and the reasons for their occurrence and what makes them happen in different ways. Al-Rimawi and others, 2011, p. 322)

It is defined by the researcher as a set of skills that include observing, classifying and organizing information, the ability to question critically, solve open-ended problems, analyze data, and the ability to formulate predictions.

Higher order thinking skills:

- Lippman (1991) defined: High-rank thinking is a combination of critical and creative thinking skills together, and critical thinking is complementary to creative thinking because it is necessary to verify logically from the radiance of creative thinking.
- Defined by Al-Atoum et al. (2007): It is a set of skills that include observing, classifying and organizing information, the ability to critically question, solve open-ended problems, analyze data, and the ability to formulate predictions. It includes the last four skills of Bloom's classification (Al-Atoum et al., 2007, p.227)

The researcher defines it as: an advanced mental activity based on understanding facts, finding logical solutions, and formulating concepts that are compatible with that information and clarifying it away from bias and exaggeration. It is thinking that leads to creativity, which is one of its characteristics.

Literature Review

High-Ranking Thinking Skills:

Basically, higher-order thinking skills are the reasoning skills that arose from Bloom's Taxonomy. Bloom's updated classification is a proprietary classification approach in which classes are arranged in a single dimension. In taxonomy, goals are categorized consisting of a verb and a noun phrase (Anderson et al., 2010, p. 34), the verb denotes the cognitive process involved, and the noun denotes the knowledge students are expected to learn or create. Provides an updated version of the taxonomy that includes higher-order thinking skills in its original form. Bloom's Taxonomy, which identifies higher-order thinking skills, has guided many educators and researchers in the development and assessment of higher-order thinking skills (David and Urey, 2007, p. 354).

Almost 30 years after Bloom (1956), Resnick (1987) makes some judgments about the nature of higher-order thinking skills (Alexander and DeGerlere, 2011, p. 23):

• Higher-order thinking skills are difficult to identify, but are easy to recognize when observed
• Higher-order thinking skills have always been one of the main goals of elite education institutions. The challenge today is to find ways to provide high-level training in thinking skills in organizations that aim to educate the general public.

Higher-order thinking skills are key to successful learning at all levels, not just advanced levels.

Effective thinking relies on knowledge of a specific domain, but many traits of effective/powerful thinking are common to various disciplines and situations.

He (Brockhart, 2010, p. 79) discusses the characteristics of higher-order thinking skills as complex, ambiguous, demanding, involving different solutions, and requiring self-regulation. On the other hand, (Berton, 2009, p. 47) defined what higher-order thinking skills are: memorizing higher-order thinking skills, learning information and results independently of each other, using them automatically, and responding to problems with known solutions (Sternberg and Grigorenko, 2004, p. 207) . According to (Sternberg, 2005, p. 42), it allows groups of thinkers who possess low-level skills to develop their skills and turn them into higher-order skills when applying educational programs.

Internal connections, knowledge transfer, application of prior knowledge, and growth of pertinent cognitive structures are all factors in the development of higher-order thinking abilities (Pantiel, 2007, p. 43). Higher-order thinking abilities are necessary when there is true doubt, such as in real-life difficulties, claim Dolepas and Villamor (2013, p. 50). Higher-order thinking skills are described as the capacity to move from a sub-skill to higher-order thinking abilities (David and Urey, 2007, p. 354). Accordingly, higher-order thinking abilities are a cognitive process that is focused on finding solutions (Wellman, 1997, p. 18).

According to (Brockhart, 2010, p. 78) higher-order thinking skills require the application of broad knowledge and two main features of higher-order thinking skills must be considered; The ability to solve non-traditional problems and learn in different areas. (Fisher, 2001, p. 67) defines higher-order thinking skills as the process of collection, reasoning, problem-solving, and understanding. (Donald, 2002, p. 24) also believes that higher-order thinking skills involve different ways of solving problems, reasoning, integrating and applying knowledge, making inferences independently, and thinking from different perspectives (Pantiel, 2007, p. 56).

Higher-order thinking skills are the ability-level behaviors that enable students to succeed in life and are a combination of many knowledge and skills. It is called all the cognitive, emotional and motor features that an individual uses while demonstrating his ability (Pantiel, 2007, p. 56) In other words, it is the use of more than one skill by relating it to his individual characteristics (Sternberg and Grigorenko, 208, p. 2004) As it is clear from the definitions provided, it is defined as Thinking processes are generally defined as methods or processes for conceptualization, analysis, and reasoning. Higher-order thinking skills require the systematic organization of basic thinking skills such as reasoning, judgment, dealing with uncertainty, flexible thinking, open-mindedness, critical thinking, planning, decision-making, and problem-solving. , knowledge generation, creative thinking. This includes many cognitive activities.

Today, higher-order thinking skills are emphasized with the Group Learning Assessment applied in the USA. Emphasis is placed on students' critical thinking, analytical thinking and problem-solving skills. The project called (Global Perspectives and Independent Research), developed by Cambridge in England, focuses on Students research, analytical thinking and communication skills. Critical thinking, analytical thinking and problem-solving skills come to the fore in the OECD (Assessment of Learning Outcomes in Higher Education) project, which is still in the pilot implementation phase.

In this study, the OECD uses the university's Higher-order Thinking Skills Assessment Tool, used in the USA, to test critical thinking, analytical thinking, and problem-solving skills, which it defines as "general skills" to suit different cultures. There is little doubt that research is being done to determine higher-order thinking skills, the degree to which students possess them, and how to cultivate them in global practises (Brockhart, 2010, p. 79).

The philosophical foundations of analytical thinking:

The philosophical foundations of analytical thinking are based on Aristotle's logical studies, in which he reveals the methodological principles of reasoning (Shields, 2012, p. 45). Examining the methodological properties of logical inferences by the deductive method, Aristotle revealed the basic principles for constructing a coherent argument from a set of propositions. Focusing on the grammatical structures of propositions, Aristotle expressed any argument in terms of variables such as A, B and qualifiers such as "some", "all", "no". something", and built a formal (rule-based) structure in which its logical consistency could be assessed, thus making the thinking systemic, and he succeeded in putting it into practice (Smith, 2012, p. 32).

The method of analytical analysis, which has profound influences in the history of philosophy, is also important in terms of developing educational methods aimed at acquiring students' higher-order thinking skills. Analytical analysis involves processes such as decomposing a problem situation into its constituent parts and establishing logical relationships between the parts and the whole (Anderson et al., 2010, p. 34). The analytical

thinking skills underlying the analysis process are the skills that will enable people to be effective in the professional, social, community and individual fields, because analytical thinking enables setting a purpose, evaluating alternatives, and making logical decisions (Tsalapatas et al., 2011, p. 44). In the literature, analytical thinking skill has been defined similarly by many researchers. Table 1: includes definitions of analytical thinking skills reported in the literature.

Table 1. *Definitions of analytical thinking skills in the literature*

	Researchers	Analytical thinking skill
1	Bloom and DiGerlere, 1956	Separating a specific situation into its elements, establishing relationships between the elements, and defining the principles and rules on which the relationships are based.
2	Chaffee, 1990	Divide the whole process or situation into its constituent parts and determine the relationship of these parts to the whole. Classify the various elements, determine the structure of the components, identify the possibilities, and explain the logic of the reasoning presented
3	Aamir, 2005	Develop the ability to examine and distinguish the strengths and weaknesses of current facts and opinions, analyze data, and reason with judgment to use information effectively
4	Yarvilla, 2006	analysis, criticism, judgment and comparison; Tend to be creative and practical.
5	Elder and Ball, 2007	Have knowledge of the parts to analyze the whole. Define and question the basic structures of the whole.
6	Anderson et al., 2010	Divide the material into its constituent parts and determine how these parts relate to each other and to the material as a whole. Separating and analyzing relevant or important messages from the message, how to organize (group) parts of the message (organization), identify the message behind the message (examination and attribution).
7	Brookhart, 2010	Identify the main idea or thesis of a given text, identify the underlying assumptions and structure of the discussion, find contradictions, if any, and evaluate the similarities and differences between two or more viewpoints.

(Elder and Paul, 2007, p. 27) identified eight principles that will guide analytical thinking, accordingly analytical thinking.

- have a purpose,
- takes place in a certain perspective,
- based on assumptions,
- It is a method of arriving at inferences and conclusions,
- uses data, facts and experiences,
- aims to understand the meaning and make a judgment,
- Based on concepts and theories,

– Aims to answer a question or solve a problem.

In addition to analytical thinking skills, (Amer, 2005, p. 34) also identified the characteristics of individuals who use analytical thinking skills effectively. Accordingly, the individual who thinks analytically;

– approaches problems within a given logic, based on available data,
– Prone to performing tasks involving problem solving (particularly if they have the requisite knowledge in the subject area),
– Take a structured and methodical approach to the task to be performed,
– Works diligently and diligently until the task that needs to be done is completely completed.
– Collect lots of data before making a decision, get ideas, and continue collecting data even after a decision is made.

logical Thinking:

All higher-order thinking skills involve logical reasoning. Reasoning skills include evaluating whether information or a claim is true, whether it is related to the problem at hand, and whether two or more things are consistent. In this regard, the skills of induction and deduction are mentioned, especially when examining the ability to analyze (Brockhart, 2010, p. 67):

It is an attempt to reach high-ranking generalizations from observing one event after another. Induction is the logic used in moving from the particular to the general, from events to laws (Berton, 2009, p. 48) According to Bruner, the basic structure (concepts and principles) of a subject is discovered by the inductive method. The individual discovers the overall structure by identifying and examining the similarities and differences in the examples provided (Erden & Ackman, 1997, p. 53). The analytical task involves identifying the main theme in the text and supporting that main theme with evidence from the extrapolatory part. Recognizing patterns in data is a necessary skill for extrapolation. Another important skill is determining which score best explains existing patterns (Brockhart, 2010, p. 78).

With inference, he tries to reach a conclusion by reasoning from one or two propositions. Inference is a systematic method of reasoning by which a general judgment is reached from a set of assumptions that are known or assumed to be true (Ribes, 1995, p. 279). Since propositions are linked to an outcome by linking them together through logical rules of inference, the validity of the propositions also guarantees the validity of the conclusion (Evans, 2005, p. 169). One important difference in deduction compared to induction is that elicited assumptions are general statements, on the other hand a general conclusion is attempted as a result of observing and evaluating a series of particular cases or examples (Sloman and Lagnado, 2005, p. 95).

Evaluating Analytical Thinking Skill:

As in the assessment of all skills, the point to be emphasized in the assessment of analytical thinking skills is to identify the type of thinking skills students are expected to

use while answering a question or while performing a task (Brockhart, 2010, p. 29). It turns out that researchers include different applications for assessing analytical thinking skills. In Table 2: the literature relevant to the assessment of analytical thinking skills is presented.

Table 2: *Literature relevant to the assessment of analytical thinking skills*

Researcher	Evaluation	goal
Brookhart, 2010	To assess students' analytical skills or given questions or tasks, ask students to segment information and reason based on this information and explore the relationships between them. Students are given a specific material with questions or they are asked to find the required material. Next, the students are asked questions that require them to mark out or organize the pieces with a certain logic. In another application to assess higher-level analytical thinking skills, a problem situation, political text, cartoon, or experiment is presented with its findings and students are asked to identify the main idea and/or problem in the given situation. They are also asked to identify the grounds that they can use to assess the quality, accuracy, or validity of an existing claim. In the assessment, students are asked to compare different items in related subjects and to rank these items according to their similarities and differences. Not every comparison process requires higher-order thinking skills. Simple comparisons are one of the main ways to demonstrate understanding. However, complex comparison exercises require analytical thinking skills. Open-ended questions or tasks that require selection are used to assess analytical ability.	Breaking down information and inferring based on that information and discovering relationships between them. Organizing pieces within a given logic. Determine the main idea. Determine the causes Identify similarities and differences.
Anderson et al., 2010	In such a situation, the student is given a text and asked to decide which information in that text is the most important or necessary information for solving the current problem. Activities such as identifying the main lines of the selected text, separating the text into major steps, identifying systematic and coherent relationships among relevant elements, revealing point of view, biases and values in the basis of the discussion are used in order to assess analytical thinking skills.	Breaking down information and inferring based on that information and discovering relationships between them. Organizing pieces within a given logic. Determine the main idea. Identify biases.

Marzano, 2011	To support the claim, students must know how to analyze, analyze, and critique a thesis. Students are required to submit a claim on a topic to create a dissertation. For a claim to be valid, it must be based on some foundations. In some cases, it is desirable to provide detailed information on the reliability of the grounds for the claim, and to support even these grounds. Finally, exceptions must be considered to increase the validity of the claim. They are expected to form a stronger and more reliable claim by assessing when the claim is valid or not.	Make thesis/discussion analysis. Determine the basis. Define restrictions.
Royten, 1997	To analyze means to look carefully to understand and to disassemble. One of the most common uses of analytical thinking is to analyze an idea or discussion. In such cases, cause-and-effect relationships are usually analyzed. Students are asked to break the whole into its parts, to identify the main idea sentence and the subordinate clauses that support this sentence. When the principles of convergence and the cause-and-effect relationships between these ideas are examined, discussion analysis is undertaken. In this case, it is possible to understand the discussion more accurately.	Breaking down information and inferring based on that information and discovering relationships between them. Make thesis/discussion analysis. Determine the main idea. Identify side thoughts

When assessing analytical thinking skills, students are asked to break down information into parts and explain and explore relationships between them based on this information. Pieces are organized within a given logic. Main idea is identified. Foundations in selected text may be asked. Discussion analysis. In addition, students' analytical reasoning skills are also used for purposes such as identifying similarities and differences, identifying side ideas, and identifying biases and limitations in an assessable text (Brockhart, 2011, p. 37).

Evaluation:

Sound analysis leads to sound evaluation, and to assess their own skills, students are asked to judge the value of the material or how well it serves the intended purpose. While doing this assessment, students use different criteria. These standards may be standard standards or they may be developed by students. The assessment mentioned here are not assessments based on personal preferences, but rather assessments based on reasoning and a thesis supported by various evidence (Elder & Ball, 2007, p. 28). These assessments by students are assessed by taking into account criteria such as the thinking styles they use, how they support their ideas, and the clarity of explanations (Brockhart, 2010, p. 89). In this study, students were given a situation to assess their analytical thinking skills and asked to identify the main idea, side ideas, and relationships between ideas in the given situation or text, identify assumptions, if any, and evaluate the quality and accuracy of the claim made in the text.

Critical Thinking Skill:

Within the scope of this study, the literature on critical thinking skills was examined by focusing on what critical thinking skill is and how this skill is evaluated. It is important to identify the signs of how critical thinking skills are defined. Likewise, examining how this skill is properly assessed and graded will guide the assessment to be made within the scope of this research.

The subfields of educational psychology and educational philosophy can be used to categorise studies in the realm of education for critical thinking. When it comes to how they approach critical thinking, these two subfields resemble each other in some ways and diverge in others. Philosophy is an academic discipline where conceptual investigations are made regarding important issues pertaining to existence, knowledge, and morality. Examining the meanings ascribed to ideas, finding logical connections, assessing statements, and revealing any faults they may have are all examples of conceptual research activities.

In other words, critical thinking plays an essential role in the implementation of philosophy. Therefore, the nature of critical thinking and its methodological applications have an important place in philosophy. The general approach used in studies of critical thinking in the philosophy of education literature is to identify the basic characteristics of the ideal thinker (Dolibas and Villamor, 2013, p. 51). Critical thinking is a purposeful, self-regulating way of thinking that results in analysis, interpretation, reasoning, and evaluation. Critical thinking, which is an important tool for asking questions, has liberating power in education and is also very effective in people's personal lives (Face, 1990, p. 48).

Critical thinking is logical and reflective thinking about deciding what to do or believe. Critical thinking involves creativity. Creating hypotheses, looking at the problem from different angles, creating questions, proposing possible solutions to the problem, and planning are the creative processes listed for critical thinking. However, its definition generally emphasizes reflective thinking, reasoning, and decision-making. (Paul & Elder, 2006, p. 25) Critical thinking is the art of thinking through analysis and evaluation. It is a process in which the individual directs, observes and corrects his thoughts. Critical thinking requires carefully selected criteria and the judicious use of these criteria to achieve excellence. It also includes problem-solving skills and overcoming the self-centeredness inherent in humans and social focus (Ennis, 1991, p. 5)

Although there is no fixed way of thinking that is appropriate for every situation, he has prepared an outline of thinking consisting of a series of questions that he believes can be applied in a variety of areas. The questions that guide the thought process identified by Halpern are as follows:

- What is the goal to be reached? An individual sets out to achieve a specific goal. A clearly defined goal effectively guides the thinking process. However, as information is gained in the process, the goal may change and this question may be repeated again and again. As a result, a person who does not know where he wants to go cannot know whether he has reached his goal or not.
- What do you have? At this stage, the information found is evaluated. While the accuracy of some information is known with certainty, the accuracy of others is questionable. At the same time, gaps or discrepancies between the available information and the new information must be identified.
- What skills/thinking skills are needed to achieve the goal? After defining the goal and evaluating the information present, the process of goal-oriented thinking should be

planned. Different problem situations require different skills. In this case, it is necessary to find and develop the appropriate strategy to reach the goal, which is a time-consuming process that requires careful planning.

- Did you achieve the goal? Accuracy is the most obvious indicator that makes it easy to predict success. Is the proposed solution useful? Did you really achieve the goal? Is the target set correctly? What skills were learned in this process that can be used again?

People who use critical thinking skills effectively are motivated and willing to work in a planned manner, to check the accuracy of the work done, to collect information, and who do not give up even when the solution is not clear and easy or consists of several phases (Halpern, 1997, p. 19). According to (Fichione, 2011, p. 105), the behaviors of critical thinking are the rules that consist of situations that provide the internal motivation for the individual to think critically. (Fichione, 2011, p. 106) identified the directions of critical thinking as follows;

• Search for the truth. Intellectual honesty, willingness to obtain the most accurate information, asking difficult questions, and a tendency to think based on the causes of events and available evidence,
• Be open minded. openness to new and different perspectives,
• Be analytical/solution oriented; Alert to existing or potential problems, and sensing these problems
• Being organized. tend to work hard in an organized manner,
• Self confidence. confidence in their judgment and ability to make decisions,
• Feeling curious. Be curious and willing to learn,
• Being rational and prudent. Exercise caution and caution when evaluating judgments made or reached.

According to (Berton, 2009, p. 49), the actions of critical thinking are as follows;

• Intellectual humility: Recognizing that knowledge may have limits. Being sensitive to situations where selfish thinking may be misleading. Being sensitive to bias and potential limitations from one's perspective. Do not claim more than you know.
• Intellectual Courage: Recognizing that ideas, beliefs and viewpoints that have not been seriously considered or that have a negative impression must be confronted and dealt with fairly.
• Intellectual empathy: the awareness that fully understanding the opinions of others requires putting yourself in their shoes.
• Intellectual integrity: Honestly applying the standards expected of others in terms of evidence and proof of one's thinking. Honestly admitting that you were wrong when you notice inconsistencies or inconsistencies in your thoughts and actions.
• Intellectual perseverance: Recognizing the need for intellectual insight and adherence to facts despite difficulties, obstacles and disappointments. Awareness that it takes time to deal with unanswered questions and confusion in order to gain insight and deep understanding.
• Belief in Reason: Confidence that rational behavior serves its interests and the interests of humanity in the long run. Believing that with the right encouragement and guidance, everyone can learn to think for themselves and come to logical conclusions.
• Being common sense/impartial: recognizing the need to value all opinions in the same way, regardless of feelings and concerns.

(Ennis, 1991, p. 24) listed the skills of an individual who uses his or her critical thinking skills effectively as follows;

- Determine the focus (this can be the problem, the problem or the outcome),
- Analyze discussions,
- Asking and answering clarifying questions,
- Defining terms, evaluating definitions, and dealing with ambiguities.
- Identify the unspoken assumptions and skills that form the basis of decision making
- Evaluate the credibility of the source,
- Observing and evaluating monitoring reports, skills of making conclusions
- Making conclusions from general to specific and evaluating these conclusions,
- Draw general conclusions from a specific proposal and evaluate these conclusions,
- Making and evaluating value-based judgments Attitudes in executive perception Keeping separate suggestions, reasons, assumptions, opinions, and other existing arguments, personal opinions that he doubts or disagrees with as valid.

Researchers are developing different test situations to assess critical thinking skills. One of the higher order thinking skills, the critical thinking skill is to present logical and wise reasoning in the face of a situation. The ability to think well is the foundation of critical thinking skills. Students are given a text, text, advertisement, or other source of information to assess their critical thinking skills. Students are then expected to make a critical assessment. The evaluation and inference expected here is to assess the credibility of the source of information, to determine the assumptions involved in the source and the methods of persuasion used (Brockhart, 2010, p. 33). Verbs such as predict, evaluate, analyze, classify, compare, compare, criticize, defend, discriminate, hypothesize, infer, discuss, estimate, and relate can be used when evaluating critical thinking skills (Haldene, 1997, p. 31).

Explains (Dewey, 1910, p. 34) five logical steps in solving problems;

- The sensation of difficulty,
- Define the problem (transform the difficulty into an investigationable problem),
- Estimating the solution (developing hypotheses/hypotheses through which a possible cause-and-effect relationship to be tested is expressed and/or preparing questions that, when answered, are expected to contribute to the solution of the problem),
- Define observable competitors (determine in advance the observable data that will be needed to test the experiment or answer questions),
- Conduct trials and evaluations (Collect data according to expected testers and evaluate expectations (Karasar, 2009, p. 67).
 Lucio (1963) identified the steps of problem solving as follows (Belen, 2002, p. 51);
- State the problem clearly,
- identify different solutions and identify the necessary information,
- critically review solutions,
- Choosing the most appropriate method to solve the problem.

(Reeve, Larkin & Brackett, 1976: 212) developed a four-step strategy for teaching problem-solving skills in their studies. The first step, identification, involves identifying the information provided and required and then drawing up a diagram that organizes the problem. In the second stage, students learn about simple problem-solving relationships and how to use them to solve a problem. Third, the students make the necessary calculations, implement their plans, and finally explain the reasoning they used in solving the problem and see if the final answer makes sense. Students' success in problem-solving increased with this strategy. The

definition of problem-solving by Reeve, Larkin, and Brackett also includes the process of critical thinking. But in addition to this, the application and computation processes are also involved in solving problems. This suggests that the differences between "problem-solving and critical thinking" are similar to the differences between "understanding and doing". The definition of problem solving given by Reeve, Larkin, and Brackett covers both and has much in common with the scientific method (Donald, 2002, 413). The scientific method is the most effective way to solve problems. In problem solving, students are expected to solve the problem rationally using the scientific method.

Some psychologists have defined the problem-solving process as a cycle. This cycle consists of the following steps (Davidson and Sternberg, 2003, p. 67) identifying or defining the problem, Define the problem and express it mentally,

- develop a solution strategy, organize their knowledge of the problem,
- Allocate mental and physical resources to solve the problem.
- monitor progress,
- Score evaluation.

Past Studies

Abdul Majeed's study (2020): The study aimed to measure the effectiveness of using the learning stations strategy in teaching philosophy to develop higher-order thinking skills and the dimensions of goal orientation among fourth-grade middle school students. The study followed the semi-experimental approach due to its suitability for the study. The researcher chose his sample from the fourth grade preparatory students, and the number of the sample was (64) students. The researcher prepared a tool that consisted of the experimental materials for the research, which are: the teacher's guide, the student's handbook, and also the preparation of measurement tools represented in: the high-rank thinking test, and the goal orientation scale. Its validity and reliability were verified. The results revealed that the effectiveness of using the Learning Stations strategy in teaching philosophy on developing higher-order thinking skills and the dimensions of goal orientation among fourth year preparatory students.

Study by Al-Ghamdi (2019): The purpose of the study was to determine how well-versed in systemic thinking skills gifted female teachers were in teaching from the perspective of the students. When the descriptive survey approach was used because it was appropriate for the investigation. In the Al-Baraha district, the researcher selected a sample of gifted female students. (80) female students made up the sample.

The researcher prepared a note card. Its validity and reliability were verified. The results revealed that the evaluation skill came in the first order among the systemic thinking skills, followed by the analysis skill, then the skill of perceiving relationships, and the composition skill came in the last order, and that the evaluation of all skills came with a very high degree of appreciation, and that the evaluation of all skills came with a very high degree of appreciation. The results of the study also showed that there were no statistically significant differences at the level of significance (a = 0.05) in the level of female teachers' practice of systemic thinking skills due to the variables of gifted students (specialization, class).

Al-Saadi (2019): The study aimed to identify the effectiveness of an enrichment program based on the theory of successful intelligence in developing higher-order thinking skills and scientific sense among third-grade preparatory students. The semi-experimental approach was used for its suitability to the study. The sample of the study consisted of (82) students from the third year of middle school. The researcher built 3 tools. The validity and

reliability of the tools were verified. The study revealed that there is a statistically significant difference at the state level (a = 0.01) between the mean scores of the experimental group and the mean scores of the control group in the post application of the high-ranking thinking skills test in favor of the experimental group, and there is a statistically significant difference at the function level (a = 0.01), between the mean scores of the experimental group and the mean scores of the control group in the post application of the cognitive aspects of the scientific sense test in favor of the experimental group, and there is a statistically significant difference at the significance level (a = 0.01) between the mean scores of the experimental group and the mean scores of the control group in the post application of the emotional aspects scale For the scientific sense in favor of the experimental group, and there is a positive correlation between the scores of the experimental group members in the performance on the test of high-ranking thinking skills and their scores in the test of the cognitive aspects of the scientific sense.

2019 research by Essam The study used a suggested technique based on multiple reinforcement patterns to increase academic achievement and higher-order thinking skills in chemistry among a sample of fourth grade students. It was done using a semi-experimental approach. Students from the fourth preparatory class made up the sample. constructing two tools—one to assess academic performance and the other higher-order thinking abilities. The tools' accuracy and dependability were confirmed. The findings showed that academic success and higher-order thinking abilities in chemistry are positively correlated.

With regard to the objectives: the objectives of previous studies varied, some of which tended to the degree of practice of science teachers: such as the study (Al-Tajan, 2021) aimed to know the degree of science teachers' practice of the mental operations of the International Trends in Science and Mathematics (TIMSS) in the light of some variables, and the study aimed (Zahra, 2020) .To identify the degree to which science teachers studying in the preparatory stage practice the skills of alternative assessment in planning and using its tools and following up on its results, including those who tended to higher-order thinking: such as a study (Abdul Majeed, 2020) that aimed to measure the effectiveness of using the learning stations strategy in teaching philosophy to develop higher-order thinking skills and the dimensions of goal orientation among second year secondary students, and the study (Al-Ghamdi, 2019) aimed to know the level of gifted female students' teachers' practice of systemic thinking skills in teaching from the students' point of view in the light of some variables, and the study (Al-Saadi, 2019) aimed to identify the effectiveness of an existing enrichment program on the theory of successful intelligence to develop higher-order thinking skills and scientific sense among third-grade preparatory students, and a study (Essam, 2019) aimed at developing academic achievement and higher-order thinking skills in chemistry, among a sample of fourth-grade preparatory students; Using a proposed strategy based on multiple reinforcement patterns.

With regard to the methodology: the study (Al-Tajan, 2021), the study (Zahra, 2020) dealt with the descriptive survey method, and the study dealt with (Abdul Majeed, 2021), the study (Al-Ghamdi, 2019), the study (Al-Saadi, 2019), (Issam, 2019) Semi-experimental research method.

The current study is similar to previous studies. It follows the descriptive survey approach as an appropriate approach for this study.

Methodology and Procedures

The research methodology and procedures represented by the research community and sample and its statistical tools and methods will be dealt with:

Study Method

The analytical descriptive approach was used, and through this approach the researcher can link the relationships; By asking questions or making hypotheses. Through the descriptive analytical approach, the researcher can extract results according to various evidences.

Study Sample

The participants in the study were Arabic language instructors working for the Baghdad, Al-Rusafa, first, second, and third directorates of education.

Study Sample

The sample of the study was chosen by the simple random method, as they numbered (284) male and female teachers. It is represented by the teachers of the Arabic language in the directorates of education of Baghdad, Al-Rusafa, the first, the second, and the third, and Table (3) shows the distribution of the sample.

Table (3) *Distribution of sample members*

variable	Category	Number	Percentage
gender	males	168	59%
	females	116	41%
Years of Experience	Less than 5 years	64	23%
	From 5-10 years	75	26%
	More than 10 years	145	51%
Qualification	Bachelor's	246	87%
	Postgraduate	38	13%

Instrument

The questionnaire was built by referring to the theoretical literature and previous related studies to find out the degree of practice of Arabic language teachers in the first, second and third directorates of Baghdad, Rusafa, and the five-point Likert scale was adopted in the questionnaire.

The validity of the questionnaire:
The validity of the questionnaire was verified in two ways:

Polit of the Study

To verify the validity of the tool, it will be presented to a number of specialized arbitrators, including university professors in curricula and science teaching, educational supervisors, and some science teachers with long experience. In order to ensure the correctness of the wording of the vocabulary scientifically, and the accuracy of the measurement levels, the proposed amendments were taken into consideration.

Structural honesty:

The constructive validity of the scale was verified by calculating the Pearson correlation coefficient between the paragraph score and the total score of the questionnaire. Table (4) shows this.

Table 4: *Correlation coefficient of each paragraph of the questionnaire with the total score*

correlation coefficient	Paragraph	correlation coefficient	Paragraph
*0.69	11	*0.59	1
*0.72	12	*0.69	2
*0.67	13	*0.58	3
*0.90	14	*0.65	4
*0.83	15	*0.58	5
*0.79	16	*0.64	6
*0.71	17	*0.76	7
*0.71	18	*0.67	8
*0.58	19	*0.78	9
*0.65	20	*0.72	10

The results appear in Table (2) that all correlation coefficients between each paragraph of the questionnaire and the total score are statistically significant at the level of significance ($\alpha \leq 0.05$) and ranged between (0.57 * - 0.90 *), which indicates the validity of the internal consistency of the questionnaire.

Study Procedures: The current study procedures are as follows:

- The relevant theoretical literature and previous studies were reviewed; Preparing the study tool and drafting its paragraphs in an initial manner.
- The questionnaire was presented to the arbitrators and experts, and its validity and reliability were verified.
- The sample members were selected from the required community, the questionnaire was distributed, the objectives and problem of the study were explained, and the questions posed by the teachers were answered.
- The questionnaire was distributed and collected in preparation for its analysis using statistical codes to reach the results, analyze them, discuss them, and develop results and recommendations.

Statistical:

The researcher used the statistical program (SPSS) to perform the appropriate statistical treatment, and the following were used:

- Arithmetic means and standard deviations
- Triple variance analysis

Chapter Fourth: Presentation and discussion of results

Describe the paragraphs of the questionnaire

With regard to the preparatory stage teachers' practice of high-ranking thinking skills in the Arabic language subject from their point of view in the first, second and third Baghdad Rusafa Education Directorates, the arithmetic means and standard deviations were calculated for the questionnaire items, and Table (5) explains this.

Table 5: *The arithmetic means, standard deviations and ranks of the questionnaire items*

the number	Paragraph	mean	standard deviation	level
	I help learners to classify	3.35	1.14	middle
2	I help learners clarify meanings	3.61	1.07	middle
3	I encourage learners to probe and delve into things using the five senses	4.12	1.21	high
4	I help learners identify ideas	3.62	1.04	middle
5	I help learners define arguments	3.47	1.05	middle
6	I help learners analyze arguments	3.55	1.07	middle
7	I direct the learners to identify the features of the subject to get an idea of the object he is describing	3.29	1.07	middle
8	Prepare the learners to organize knowledge by linking the events among themselves in a sequential context according to a specific standard	3.65	1.14	middle
9	I identify learners' strengths based on standards	3.62	1.16	middle
10	I identify weaknesses of learners based on standards	3.75	0.93	middle
11	I assist learners in obtaining evidence	3.62	1.14	middle
12	I help learners guess the alternatives	3.67	1.07	middle
13	I help the learners to draw conclusions Help learners clarify the relationship between variables	3.59	1.16	middle
14	Help learners clarify the relationship between variables	3.49	1.09	middle
15	I put elements and parts together in a new way to produce something innovative and new	3.64	1.17	middle
16	Guide learners to find solutions and ideas for open-ended problems	3.74	1.17	middle
17	I direct learners to use previously learned concepts, facts, and information to solve a problem when exposed to a new or unfamiliar situation	3.21	1.16	middle

18	I ask questions with the aim of closely examining the case	3.72	0.93	middle
19	I direct learners to self-examination and self-correction	3.46	1.14	middle
20	I outline findings, clarify actions, and present arguments	3.75	1.07	middle
	The total mean	3.58	0.86	middle

IIt can be seen from Table (5) that the items of this tool were of a high and medium degree, as in the first rank was paragraph (3), which states "I encourage learners to scrutinise and delve into things using the five senses" with an arithmetic average of (4.12) and a high degree, and paragraph (3) came (17) ranked last, which states "I help learners to coding" with an arithmetic average of (3.12) and a low score, which states (lear The tool's arithmetic mean, which was (3.58) with a standard deviation of (0.86), was in the average range.

Hypothesis testing

Testing the first hypothesis: "There are no statistically significant differences at the level of significance (a = 0.05) in the degree of Arabic language teachers' practice of higher-order thinking skills due to (gender, experience, academic qualification)?"

To test this hypothesis, the triple analysis of variance was used to reveal the presence of statistically significant differences in the degree of science teachers' practice due to (gender, experience, and academic qualification). Table (6) shows that:

Table No. 6: *Results of the Three Way ANOVA test to detect differences in the variables of gender, experience and qualification*

source of contrast	sum of squares	degrees of freedom	mean of squares	F value	significance level
gender	1.31	1	1.34	2.136	.178
Experience	.78	2	.39	.652	.56
qualification	.14	1	.11	.124	.69
Gender * Experience	2.84	2	1.43	2.423	.146
Gender * Qualification	.132	1	.20	.325	.64
Qualification * Experience	3.1	2	1.50	2.508	.082
Gender * Experience * Qualification	3.31	2	1.621	2.73	.079
The error	67.21	111	.589		
total	77.7	122			

It appears from Table (6) that the value of (sig) is less than the calculated (F). We accept the null hypothesis that there are no statistically significant differences in the degree of Arabic

language teachers in the preparatory stage practicing higher-order thinking skills due to the variable of gender, experience and qualification.

These results are attributed to the fact that male and female teachers have the same academic qualifications, live in the same social environment, and have gained experience from the educational process. High-ranking thinking skills can be acquired through training and practice, and are not limited to academic qualifications, experience, or gender.

2 The second hypothesis: "There is no knowledge of Arabic language teachers with high-ranking thinking skills. To test this hypothesis, the high-ranking thinking skills scale that was prepared was applied to the sample of (284) male and female teachers. The researcher also adopted the (t) test for one sample, and the table (7) This is explained:

Table (7) *shows the arithmetic mean and standard deviation of the scores of Arabic language teachers in the high-ranking thinking scale with the default average and the t-value*

Statistical significance at a significant level of 0.05	t-value		degrees of freedom	standard deviation	standard deviation	The general arithmetic mean	Sample volume
	Tabular	calculated					
Statistical significance	1.76	2.35	283	3	0.86	3.58	284

It is clear from Table (7) that the general average of the arithmetic average of the scores of the research sample is (3.58) and a standard deviation of (0.86), and that the calculated value of (t) is equal to (2.35), which is greater than the tabular value of (t) which is equal to (1.76) at a degree Freedom 283 and a level of significance of 0.05, which indicates the existence of a statistically significant difference between the arithmetic mean and the hypothetical mean and in favor of the higher average (the arithmetic mean), which means that there is a knowledge of Arabic language teachers in the directorates of Baghdad, Rusafa, first, second and third, so the null hypothesis is rejected Which states (there is no knowledge of the Arabic language teachers in the directorates of education of Baghdad, Rusafa first, second, and third), and accepting the alternative hypothesis (there is knowledge of Arabic language teachers in the directorates of education of Baghdad, Rusafa first, second, and third).

Recommendations

The study resulted in the following recommendations:

1. The need to prepare training courses and workshops concerned with training teachers on higher-order thinking skills, and how to employ them in the classroom.
2. Directing researchers to the necessity of conducting more studies concerned with higher-order thinking skills on other subjects and at different levels.

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