Journal of Positive School Psychology http://journalppw.com
2022, Vol. 6, No. 6, 9598 – 9608

The Level of Practice of Gifted Students Teacher to the Dimensions of High-Order Thinking in the King Abdullah II Schools for Excellence in Jordan

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Abstract

This study aimed to measure the extent to which teachers of gifted students practice the dimensions of high-ranking thinking (observation, critical questioning, open-ended problem solving) in King Abdullah II Schools for Excellence in Jordan, and to find out whether there are differences in the extent to which teachers practice the dimensions of high-ranking thinking, according to The gender of the teacher, and his experience. The study sample consists of (213) male and female teachers from the community of teachers of gifted students in King Abdullah II Schools for Excellence in Jordan, for both sexes, and two levels of experience (less than 10 years) (10 years or more), and they were selected by stratified random method. The researchers developed a tool to measure the level of teachers' practice of the dimensions of high-ranking thinking to achieve the objectives of the study, which was at a high degree and for all dimensions, where the dimensions were arranged as follows, after solving open-ended problems in the first rank, then after critical questioning in the second rank, and after observation in the third and last rank. The results showed that there were statistically significant differences due to the effect of the teacher's experience in solving open-ended problems and high-ranking thinking as a whole, and the differences came in favor of (10 years and more), while it was found that there were no statistically significant differences in observation and critical questioning.

The results also showed that there were no statistically significant differences due to the effect of gender in all fields and in the total degree, except for the critical question area, and the differences came in favor of males. Finally, the study came out with a number of recommendations, the most prominent of which was the need to train teachers of gifted students for their students on the dimensions of high-order thinking that were addressed in the current study.

Keywords: teachers of gifted students, high-ranking thinking, King Abdullah II Schools for Excellence.

Introduction

LIPMAN defines high-order thinking as good thinking that combines its two components critical thinking and creative thinking, that is, it is equivalent to the fusion of both types of thinking. Where critical thinking includes logical judgment while creative thinking includes creative reasoning. Good thinking consists of a set of critical and creative abilities that help the individual to correct his own thinking and disbelieve scientific thinking. Newman points out that higher-order thinking is the ability to make extensive use of mental processes and this occurs when an individual interprets, analyzes, and processes information to answer a question or solve a problem that cannot be solved through the routine use of previously learned information. Within this thinking are critical, creative, deductive,

reflective, and divergent thinking skills. High-order thinking is a thinking style that requires a special mental effort, patience with skepticism, ambiguity, and independence in the practice of mental judgment, that is, the expansion of the limits of knowledge of what has been discovered, as it indicates a response to a challenge and constitutes a challenge to other challenges (Habib, 2014).

Study problem and questions: There are many high-order thinking skills that can be invested in the education of gifted students, and teachers are responsible for encouraging their students to work at high and diverse levels of thinking that enable them to interact effectively with the real-world environment to solve everyday problems rather than focusing teaching efforts on simply stating facts. Educational policies and modern curricula in many countries tend to teach students higher levels of thinking, as they put high-level thinking as one of the goals and a priority in schools in the current era. Since the teachers of gifted students are an implementation cycle for all our educational programs that aim to raise the mental abilities of their students, studying the extent to which teachers of gifted students in King Abdullah II Schools for Excellence practice the dimensions of high-ranking thinking, helps the talent and creativity specialist, including trainers, supervisors, and curriculum and program planners in knowing the extent of teachers' need To train them in teaching strategies based on higher-order thinking according to its multiple directions. Accordingly, the research problem can be identified in answering the following main question: What is the level of practice by gifted students' teachers of the dimensions of high-ranking thinking in King Abdullah II Schools for Excellence in Jordan? The following sub-questions emerged from the main question:

Study questions:

1. What is the level of practice by the teachers of gifted students of the dimensions of high-ranking thinking in the King Abdullah II Schools for Excellence in Jordan?

2. Are there statistically significant differences at the level of the function ($\alpha = 0.05$) in the extent to which teachers of gifted students practice the dimensions of high-ranking thinking due to the teacher's experience?

3. Are there statistically significant differences at the significance level ($\alpha = 0.05$) in the extent to which teachers of gifted students practice the dimensions of high-ranking thinking due to the teacher's gender (male, female)?

Objectives of the study:

The study aimed to achieve the following objectives:

1. The extent to which teachers of gifted students practice the dimensions of higher-order thinking in the classroom.

2. Knowing whether there are differences in the extent to which teachers of gifted students practice high-order thinking due to the teacher's gender and experience.

The importance of studying The study derived its importance because it was based on educational theories that emphasized the effectiveness of their application in teaching and their use by teachers. This appeared in two aspects:

The theoretical side: Providing a detailed presentation of the theoretical literature and studies related to the study variables and the applied aspects of the study variable (the dimensions of high-order thinking).

The practical side:

1. Preparing a tool on the level of practice by teachers of gifted students for the dimensions of high-ranking thinking, which can be used and applied by researchers and those interested.

2. Help those interested in King Abdullah II Schools for Excellence benefit from the results of the study in developing training plans to raise the performance of their teachers or add enrichment programs that develop students' higher-order thinking skills.

Study limits and limitations:

- Human limits: The study was limited to teachers of gifted students in the King Abdullah II Schools for Excellence from Sexual fatigue

in Jordanian schools for the academic year 2021/2022.

- Time limits: The study was implemented during the second semester of the academic year 2021/2022 specifically.

- Spatial limits: The study was applied in King Abdullah II Schools for Excellence, located in (Jordan), in particular.

Study limitations: The study was applied to the teachers of King Abdullah II Schools for Excellence in Jordan electronically, and they were selected by stratified random method, and to verify the validity and reliability of the study tools used, so the results can only be generalized to its statistical population and societies similar in characteristics.

Conceptual and procedural definitions of study terms: The terms of the study were defined theoretically and procedurally as follows:

HIGH-ORDER THINKING: It is the wide and good use of mental processes and skills practiced by the teacher in his thinking and included in the activities of the lessons (Jarwan, 2017).

It is defined procedurally: the degree obtained by the teacher of gifted students on the scale of his practice of the dimensions of high-ranking thinking.

GIFTED STUDENT TEACHER: They are highly qualified teachers who possess certain characteristics that qualify them to teach and deal with gifted students and provide effective teaching with diverse and effective strategies and methods that develop their talent aspects of excellence (Al-Shammari, 2016). They are defined procedurally: they are teachers of both sexes working in the educational body to teach gifted students in all King Abdullah II Schools for Excellence in the governorates of Jordan in the 2021/2022 school year.

THE KING ABDULLAH II SCHOOLS FOR EXCELLENCE IN JORDAN : They are mixed public schools for gifted and talented students, which the Jordanian Ministry of Education opened at the governorate level with the aim of nurturing the various talents of students in the literary, artistic and scientific fields. Students in these schools are accepted from the seventh grade level based on their performance on a set of criteria in areas related to academic and mentality abilities (Jarwan, 2021).

Theoretical framework and previous studies:

The theoretical literature

Teachers of gifted students: The teachers of gifted students are those cadres of both sexes who work in schools that provide services to the gifted and work to serve their interests and achieve the desired educational goals from the opening of those schools.

Characteristics of a teacher of gifted students:

The results of the scholars' studies on the characteristics of teachers of gifted students, categorized as follows:

Personal characteristics: accepts new ideas, self-confident, curious, and more flexible, has diverse cultural, intellectual, and literary interests, and an urgent desire to learn, has a variety of problem-solving methods, a desire for initiative and experimentation, engages students in discovering answers, respects the different points of view of others, has a strong personality and proportion His intelligence is above average and has a way of understanding things, is not bossy, responsible for his behavior.

Educational characteristics: has the ability to establish independent activities, research and individual programs, creates a safe and cheerful study atmosphere, gives feedback and diversifies teaching strategies, is familiar with questioning techniques, stimulates the growth of higher mental abilities.

Common characteristics: above average mental ability, specialized in his field, has a strong sense of personal security, recognizes diversity, originality and exoticism, is well organized and prepared, educationally and practically qualified, has knowledge and practice in guiding students, is not afraid of teaching and has communication and diplomatic skills, says no With all literary courage (Al-Taie, 2016).

HIGH-ORDER THINKING: The interest in the subject of thinking has been linked since the creation of man. It has always required him to use his mind to adapt to the environment and its

changes, and the heavenly religions urged the use of the mind to train and infer God and his ability (Bursley and Abu Asaad, 2017). High-ranking thinking is one of the most important aspects of educational psychology, and high-ranking thinking is a thinking pattern that differs from ordinary thinking and is independent and includes critical, reflective and creative thinking skills (Al-Atoum and colleagues, 2006).

Definition of higher order thinking: There is no general definition of high-order thinking and its characteristics, but definitions have been provided according to the various theoretical directions of its scholars and researchers (Al-Qamsh and Khawaldeh, 2016). According Lipman (1998) defined high-order thinking as thinking that combines creative thinking that includes a creative mental trial and critical thinking that includes logical trial, and described it as good thinking, which gives the individual the ability to correct his thoughts by himself and think in a scientific way, while Newman defined it (Newman, 1991) as the ability to use a wide range of mental processes, that is, the individual deals in a non-routine way with information to solve a problem or answer a question.

(Al-Atoum et al., 2007) After reviewing the literature and previous studies and research, it becomes clear that high-order thinking is an independent thinking style and has characteristics that distinguish it from other types of thinking. The researcher defined high-order thinking as a comprehensive use of all mental processes, which needs education, training, and practice to develop it, which contributes to solving problems effectively.

Dimensions of higher-order thinking in the study:

- Observation, which is the skill of checking things or looking at events using the five senses. Observation is defined as obtaining information through one or more of the senses (Jarwan, 2017).

- Critical questioning is a linguistic compound sentence that takes the interrogative form and is a means of gathering information.

Critical questioning defines: the ability to find questions with the aim of conducting a thorough examination of the topic or issue and identifying strengths and weaknesses based on acceptable criteria (Fouad, 2020).

Open-ended problem solving: The ability to find more than one solution to a problem and there is no single correct solution to the problem. (Al-Habashi and Suleiman, 2017). Problem solving is defined as a vital activity that a person performs when there is a problem (in it the ability to identify the problem - develop alternatives - reach the solution) (Bursley and Abu Asaad, 2017).

Characteristics of higher order thinking: High order thinking is determined by logarithmic mathematical relationships and the method of action is not completely predetermined. High order thinking is complex because it includes complex situations and situations based on mental trials. This thinking recognizes the logical or causal relationships that govern the situation and which are underestimated by the owner of low thinking, this type includes From uncertainty thinking, not all information is available and that ignorance leads to the discovery of meanings and ideas. The task of the thinker reveals the meaning of the situation. He explains what he does not explain. Often this type of thinking gives multiple solutions and avoids simple formulations and solutions. This thinking includes self-regulation and self-evaluation (thinking about thinking).

The Previous Studies : (Fouad, 2020) conducted a study aimed at implementing a proposed program to develop high-ranking thinking skills (problem solving, application, synthesis, formulating predictions, data analysis and modeling) and perceived self-efficacy among first-year preparatory students, and then a program in science based on theory was proposed. Cognitive flexibility on a sample of female students from the first preparatory grade. The results of the study indicated the superiority of the students of the research group in the high-ranking thinking skills test after teaching the proposed program based on the theory of cognitive flexibility. The proposed program based on the theory of cognitive flexibility.

(Al-Zneimat, 2019) conducted a study aimed at identifying the role of mathematics teachers in developing higher-order thinking skills (problem solving - decision-making - critical thinking - creative thinking) among students of

the upper basic stage in Deir Alla district from the students' point of view. Descriptive survey The sample of the study consisted of 355 male and female students and it was chosen by the stratified random sampling method. The results indicated that there are no statistically significant differences at the level ($\alpha = 0.05$) between the arithmetic averages in the estimates of the degree of development of higher-order thinking skills in the four domains of the students of the upper basic stage in the Deir Alla district from the students' point of view due to the difference in the students' gender ، The results revealed that there were statistically significant differences at the level of significance ($\alpha = 0.05$) between the arithmetic averages in the estimates of the degree of development of the four higher-order thinking skills at the basic stage of Deir Alaa District from the students' point of view due to the difference in class.

Rabadi and Salem (2018) designed a study aimed at identifying the impact of high-ranking thinking on quality of life at Ajloun University in Jordan. The study used the survey method. The study sample consisted randomly of 147 students from Ajloun University College. The study used two tools, two measures were applied to The study sample after extracting the psychometric properties have validity and reliability. The results indicated that the high-ranking thinking among the students came to a medium degree, and the students achieved a medium degree according to the quality of life scale, where there were statistically significant differences in the quality of life and the level of high-ranking thinking due to the variable of gender in favor of males and academic specialization in favor of students of scientific colleges. The study recommended the necessity of conducting more studies on the relationship between quality of life and other variables such as self-efficacy, self-learning and other variables, and training students to raise high-ranking thinking skills because of their close relationship with quality of life, training programs and quasi-experimental studies to improve life satisfaction and quality.

Harahsheh and Bakr (2018) conducted a study in Jordan that aimed to find out the degree to which social studies teachers of the upper basic stage in Jordan practice higher-order thinking skills from their point of view. The study sample consisted of 80 male and female teachers. Thinking critical thinking and creative and reflective thinking The study concluded that the degree to which teachers of social studies subjects of the upper basic stage in Jordan practice thinking skills from their point of view came to a medium degree and it was also found that there were statistically significant differences ($\alpha = 0.05$) due to the effect of gender in all fields and in higher thinking skills. As a whole, the differences were in favor of females, and there were no statistically significant differences due to the effect of the educational qualification in all fields and in higher-order thinking skills as a whole, and the presence of statistically significant differences ($\alpha = 0.05$).

(Habib, 2014) also conducted a study aimed at knowing the level of high -ranking thinking and its relationship to the leadership skills of managers in the ministries and institutions that won the King Abdullah II Award for Excellence and used two measures to measure the high -ranking thinking, Torrance Creative, the verbal image (A) and the critical thinking scale (Watson and Jlaser), and the results of the study concluded that the level of high-ranking thinking was moderate among the study sample, while the level of leadership skills was high for them, and that there was a positive correlation between high-ranking thinking and the total leadership skills of the study members.

Hussein (2012) also conducted his study aimed at identifying the habits of mind, high-ranking thinking and self-efficacy, and arranging and sequencing the habits of mind among students of faculties of education and knowing the difference in the level of habits of mind, high-ranking thinking and self-efficacy among students of faculties of education according to the variables of gender, specialization and stage. Three tools were relied on: a scale of habits of mind, a high-ranking thinking test, and a scale of self-efficacy. The three scales were applied to a sample of 400 students who were chosen randomly. The most prominent results are that the members of the study sample possess the habits of the mind higher than the average community belonging to it, that the members of the study have a relatively high -ranking thinking and that the habits of the mind are not affected by sex, nor specialization, or the stage, while a significant effect of a high

-ranking thinking variable appeared in favor of females - Humanitarian specialization - the first stage. The results of self-efficacy were not affected by the three variables. The relationship of mind habits with high-ranking thinking and self-efficacy is a positive relationship, the relationship of high-ranking thinking with self-efficacy is weak, while habits of mind contributed to raising self-efficacy.

Method and Procedure

Study Methodology and Procedures: The current study was based on the descriptive survey method, which is the method that is not concerned with collecting information about a specific practice in order to fit this approach with the nature of the study objectives and the questions placed on its strengths and weaknesses.

Study population and sample:The population of the current study consisted of all the teachers of gifted students in King Abdullah II Schools for Excellence in Jordan in the three regions (central - south - north) and their number was (472) male and female teachers in 13 schools, while the sample of the study amounted to (213) male and female teachers They were selected randomly, stratified by 47% of the study population.

Table (1) represents the frequencies and percentages of the study sample according to the study variables.

Table (1) Frequencies and percentages of the study sample according to the study variables

	Categories	Frequency	Percentage
Sex	male	63	29.6
	female	150	70.4
Region	North	67	31.5
	Middle	84	39.4
	South	62	29.1
Years of experience	Less than 10 years	28	13.1
	More than 10 years	185	86.9
	Total	213	100.0

Study tool: After reviewing the educational literature and previous studies related to high-ranking thinking, the researchers developed the study tool to identify the extent to which teachers of gifted students practice the dimensions of high-ranking thinking. The tool consisted of (30) paragraphs in its initial form, and after arbitration, the tool in its final form consisted of (20) paragraphs distributed over three dimensions, as shown in Table No. (2).

Table (2) Distribute the tool's paragraphs to the main dimensions you measure

Its Number	paragraphs	dimension	
7	7-1	observation	1
5	12-8	Critical question	2
8	20-13	Open-ended problem solving	3
20		The total	

1- Validity of the tool: The validity of the tool was verified using two methods:

1- The truthfulness of the content (the veracity of the arbitrators): The researchers presented the scale to a group of arbitrators from university professors and with experience and expertise from (educational psychology, psychological counseling, measurement and evaluation, special education and educational administration) from Jordanian universities. The objectives of the study, and to ensure the linguistic formulation and its clarity and the affiliation of the paragraphs with the sub-dimensions and their relevance to the age group.

2- Validity of the construction: The two researchers also conducted construct validity by studying the discrimination coefficients for the tool items by calculating the correlation coefficient between the item and the dimension to which it belongs as an indicator of the construct validity of the tool. In order to extract the significance of the construction validity of the tool, the correlation coefficients of each paragraph and the total score, and between each paragraph and its relation to the domain to which it belongs, and between the domains to each other and the total score, were extracted in a survey sample from outside the study sample that consisted of (30) male and female teachers, and the paragraphs correlation coefficients ranged With the tool as a whole between (0.46-0.88), and with the range (0.62-0.90) and table (3) the correlation coefficients between the paragraph and the total score and the domain to which it belongs.

Table (3) Correlation coefficients between the paragraph, the total score, and the domain to which it belongs

correlation coefficient with the tool	Correlation coefficient with domain	paragraph number	correlation coefficient with the tool	Correlation coefficient with domain	paragraph number	correlation coefficient with the tool	Correlation coefficient with domain	paragraph number
**.76	**.81	15	**.59	**.69	8	**.64	**.74	1
**.88	**.86	16	**.57	**.69	9	**.46	**.63	2
**.84	**.87	17	**.55	**.70	10	**.71	**.84	3
**.68	**.75	18	**.55	**.79	11	**.59	**.70	4
**.81	**.88	19	**.58	**.67	12	**.78	**.90	5
**.61	**.62	20	**.68	**.72	13	**.83	**.83	6
			**.77	**.82	14	**.71	**.63	7

* Statistically significant at the significance level (0.05).

** Statistically significant at the significance level (0.01).

It should be noted that all correlation coefficients were of acceptable and statistically significant degree, and therefore none of these paragraphs were omitted. The domain correlation coefficient with the total score, and the correlation coefficients between the domains with each other, Table No. (4) shows this.

Table (4) Correlation coefficients between the domains to each other and to the total degree

high order thinking	Open-ended problem solving	Critical uestion	observation	
			1	observation
		1	**.527	Critical question
	1	**.722	**.779	Open-ended problem solving
1	**.954	**.792	**.897	high order thinking

* Statistically significant at the significance level (0.05).

** Statistically significant at the significance level (0.01).

Table (4) shows that all correlation coefficients were of acceptable and statistically significant degrees, which indicates an appropriate degree of construct validity.

The Stability of tool: Where the two researchers verified the scale's stability with internal consistency using Cronbach's alpha on an exploratory sample from outside the study sample, which numbered (30) teachers of gifted students in King Abdullah II Schools for Excellence. The stability was also calculated by using the test-retest method.) By applying the scale, and reapplying it after two weeks on a group from outside the study sample consisting of (30), and then the Pearson correlation coefficient was calculated between their estimates in both times. Table No. (5) shows the internal consistency coefficient according to Cronbach's alpha equation and the repetition stability of the fields and the total score. These values were considered appropriate for the purposes of this study.

Table (5) Cronbach's alpha internal consistency coefficient and the repeat invariance of the domains and the total score

Internal consistency	Replay stability	The field
0.70	0.82	observation
0.71	0.80	Critical question
0.76	0.83	Open-ended problem solving
0.81	0.85	high order thinking

Study Procedures: The researchers followed the following procedures to achieve the objectives of the study

1. Using the descriptive survey method to suit the objectives of the current study.

2. Developing the study tool and verifying its psychometric properties (its validity and reliability).

3. Reviewing the educational literature related to higher order thinking in order to prepare the theoretical framework and previous studies.

4. Obtaining official books to facilitate the researchers' task for the purposes of applying the study

5. Selection of study subjects by stratified random method.

6. Data collection, auditing, and then analyzing them statistically, and extracting the most important results and suggested recommendations in the light of the study results in order to achieve the study's objectives. Then, recommendations were made in light of the study results.

Study Variables:

- Higher order thinking.
- Gender male and female.
- Level of experience less than 10 years (and more than 10 years).

Statistical processing: To answer the study questions, the following statistical methods were used: To answer the first question, the arithmetic averages and standard deviations were used, and to answer the second and third questions, the extraction of arithmetic means and standard deviations was used, and to find the differences between the arithmetic means, one-way analysis of variance and T.TEST analysis were used.

Study results and discussion:

First - the results related to the first question, which states: "What is the level of practice by the teachers of gifted students of the dimensions of high-ranking thinking in the King Abdullah II Schools for Excellence in Jordan?" To answer this question, the arithmetic averages and standard deviations of the level of practice by gifted students' teachers of the dimensions of high-ranking thinking in King Abdullah II Schools for Excellence in Jordan were extracted, and the table (6) below illustrates this.

Table (6) Arithmetic averages and standard deviations of the level of practice by gifted students teachers of the dimensions of high-ranking thinking in King Abdullah II Schools for Excellence in Jordan, ranked descending according to the arithmetic averages

Level	standard deviation	Arithmetic average	The field	The number	The rank
High	.497	4.28	observation	3	1
High	.458	4.24	Critical question	2	2
High	.533	4.21	Observation	1	3
High	.446	4.25	high order thinking		

Table (6) shows that the arithmetic averages ranged between (4.21-4.28), where the solution to open-ended problems came in the first place with the highest arithmetic mean of (4.28), while the observation came in the last rank with an arithmetic mean of (4.21), and the average Arithmetic for the level of practice of gifted students' teachers of the dimensions of high-ranking thinking in King Abdullah II Schools for Excellence in Jordan as a whole (4.25). These results indicate the existence of a state of stability among the teachers of gifted students in the King Abdullah II Schools for Excellence, and the existence of a kind of balance that allows the teacher to adapt to reality and its problems, and the existence of a state of acceptance of reality, which is evident through the state of satisfaction and conviction. He makes plans for his future, which are commensurate with the level of his professional and scientific ambitions, so he feels a high position. With regard to the field of "open-ended problem solving", which came in the first place with a mean of (4.28) and at a high level. These high results are attributed to the fact that teachers of gifted students have diverse cultural, intellectual, and literary interests and an urgent desire to learn, so they have various methods of solving problems. Desire to take initiative and experiment. This result differs with the results of the study of Harahsheh and Bakr (2018), which showed that the degree of social studies teachers' practice of

higher-order thinking skills is medium. This result also differs with the results of Al-Rabadi study (2018), which showed that high-ranking thinking among Ajloun University College students in Jordan came to a medium degree. This result also differs with the results of Habbi's study (2014), which showed that the level of thinking is high among managers in ministries and institutions that received the King Abdullah II Prize at a medium degree. This result also differs with the results of Hussein's study (2012), which showed that students of the College of Education at the University of Diyala, Iraq, possess high-ranking thinking to a relatively small degree.

Second - the results related to the second question, which states: "Are there statistically significant differences ($\alpha = 0.05$) in the extent to which teachers of gifted students practice the theory of multiple talents and dimensions of high-order thinking due to the change in the teacher's experience?" To answer this question, the arithmetic averages and standard deviations of the extent to which teachers of gifted students practice the dimensions of high-order thinking were extracted, according to the teacher's experience variable.To show the statistical differences between the arithmetic averages, a t-test was used, and Table (7) illustrates this.

Table (7) Arithmetic averages, standard deviations, and t-test of the impact of teacher experience on dimensions of high-order thinking

	Experience of Teacher	**Number**	**Arithmetic averages**	**standard deviations**	**T**	**degrees of freedom**	**Statistical significance**
observation	Less than 10 years	28	4.05	.468	_ 1.799	211	.073
	more than 10 years	150	4.24	.539			
Critical question	Less than 10 years	185	4.11	.520	_ 1.605	211	.110
	more than 10 years	185	4.26	.446			
Open-ended problem solving	Less than 10 years	28	4.07	.555	_ 2.462	211	.015
	more than 10 years	185	4.31	.481			
high order thinking	Less than 10 years	28	4.07	.477	_ 2.268	211	.024
	more than 10 years	185	4.27	.436			

Table (7) shows that there are statistically significant differences ($\alpha = 0.05$) due to the effect of the teacher's experience in solving open-ended problems and high-ranking thinking as a whole. The differences were in favor of 10 years or more, while it was found that there were no statistically significant differences ($\alpha = 0.05$) in the observation and Critical question. These results indicate that all teachers in the study sample do not differ in their views in the areas of observation and critical questioning according to their experiences. The training courses they receive at the beginning of their service, in addition to their various experiences, develop their critical thinking and observation skills. As for the emergence of differences in the field of open-ended problem-solving and high-ranking thinking as a whole in favor of those with 10 years of experience or more, this is due to the fact that the open-ended problem-solving skill requires long experiences in the field of teaching the gifted to master it. Therefore, we find that teachers with higher experiences give higher ratings to the degree to which they have open-ended problem-solving and higher-order thinking skills as a whole.

Third - To answer the third question, which states, "Are there statistically significant differences ($\alpha = 0.05$) in the extent to which teachers of gifted students practice high-ranking dimensions of thinking due to the gender variable?"To answer this question, the arithmetic means and standard deviations of the extent to which teachers of gifted students practiced dimensions of high-ranking thinking were extracted according to the gender variable, and to indicate the statistical

differences between the arithmetic averages, a t-test was used, and Table (8) illustrates this.

Table (8) Arithmetic averages, standard deviations, and t-test for the effect of gender on the degree of high-order thinking dimensions.

	Sex	Number	Arithmetic averages	standard deviations	T	degrees of freedom	Statistical significance
observation	Male	63	4.16	.535	_ .939	211	.349
	female	150	4.24	.532			
Critical question	Male	63	4.37	.439	2.552	211	.011
	female	150	4.19	.457			
Open-ended problem solving	Male	63	4.34	.473	1.092	211	.276
	female	150	4.26	.506			
high order thinking	Male	63	4.28	.437	.740	211	.460
	female	150	4.23	.450			

Table (8) shows that there are no statistically significant differences ($\alpha = 0.05$) due to the effect of gender in all fields and in the total degree, except for the critical question area, and the differences came in favor of males. This result means that males have a higher level of critical inquiry than females. This result indicates that male and female teachers of gifted students do not differ in their views on having high levels of high-order thinking, as they all possess and are developed for them through advanced training courses that males and females undergo. Therefore, the views of males and females in this area did not differ. The researcher believes that the emergence of differences in the field of critical thinking in favor of males is due to the fact that males think rationally and logically than females, as they carry responsibilities, and this result differs with the results of the study of Harahsheh and Bakr (2018), which showed that there are differences in the degree of practice of social studies teachers for the stage The higher basics in Jordan for higher-order thinking skills are attributed to the gender variable, in favor of females. This result also differs with the results of the Al-Rabadi study (2018), which showed that there were statistically significant differences in the level of high-ranking thinking among students of Ajloun University College in Jordan due to the gender variable in favor of males.

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