

The Role of Intermediate Stage Teachers in Developing Higher Thinking Skills among Talent Classes Students in Denmark

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Abstract

The present study aimed at identifying the role of middle school teachers in developing higher-order thinking skills among students of talent classes in Denmark. The study included (84) teachers involved in teaching classes for gifted middle school students, including 46 teachers and 38 teachers. A special questionnaire for middle school teachers to know their role in the development of higher thinking skills among students of talent classes in Denmark, and used the descriptive method in answering questions, and the results indicated that the field of school management came first in the highest arithmetic average. The field of school activities came in the third place with a high rating, followed by the curriculum and teaching methods in the fourth place with a high grade, while the field of difficulties facing the teacher in developing higher-order thinking skills came in the second place. The results of the study indicated that there are no statistically significant differences in knowing the role of middle school teachers in developing higher thinking skills among students of talent classes in Denmark due to the gender impact in all fields except school activities. The results of the study indicated that there are no statistically significant differences in knowing the role of middle school teachers in developing higher thinking skills among students of talent classes in Denmark due to the effect of scientific qualification. Fields. The study recommended that the programs offered to gifted students should be reconsidered through the attention of the chapters on the latest developments in the international standards for gifted care in all fields.

Introduction

The most famous definition that concerned with the definition of gifted students is the definition of the American Bureau of Education, which indicates that gifted students are those who give evidence of their ability to high performance in general mental ability, private academic aptitude, critical thinking, creative thinking, leadership ability, visual and performing arts, And psychomotor ability (Clark, 1992).

Whereas, Gallagher believes that a talented student is a student who needs to be qualified to unveil them and needs special programs and pedagogical foundations for personal growth and social well-being (Jarwan, 2016).

Wilson (1998) interprets supreme thinking skills as the mental processes that we undertake to collect, store, or store information, through procedures for analysis, planning, evaluation, and reaching conclusions and decision-making.

The development of higher-order thinking skills for individuals has today become a basic requirement that cannot be ignored; with the increasing complexities and problems of all kinds in societies, and Toynbee cautioned in 1962 to the importance of developing the capabilities of critical and creative thinking for any society. He said: Giving appropriate opportunities for the growth of thinking energies is a matter of life or Death for any society, and it is worth noting that the skill of critical thinking is one of the skills acquired by humans; therefore, these skills need to be prepared and trained (Al-Ayasrah, 2011).

The study problem and its questions

The researcher notes through his work in the education sector in the State of Denmark that schools are still experiencing a lot of inflexibility in the curricula, as the curricula of talented students in the State of Denmark do not rise or focus on what is hoped for in developing higher thinking skills such as analysis, composition, and evaluation. It is evident that the current curricula offered to gifted students focus completely on minimum thinking skills such as memorization and assimilation, and when we observe in general, we see that the majority of the planned focus in the curriculum is only an interest in the vast amount of information, while neglecting it. To develop thinking skills in how to criticize information and search for it. As for the role of the gifted teacher, he is forced by the educational system to provide the largest possible number of information by virtue of a misunderstanding of enrichment and that the criterion of a successful gifted teacher in the State of Denmark is the one who has the ability to cut as many as possible from the curriculum without paying attention to developing higher-order thinking skills for students with talent classes in Denmark, so this study came to answer the following questions:

- What is the role of middle school teachers in developing higher-order thinking skills among students of talent classes in Denmark?
- Are there statistically significant differences at the level ($\alpha = 0.05$) between the arithmetic averages of the degree of middle school teachers practicing in developing higher thinking skills among students of talent classes in Denmark according to gender variations, educational qualification and years of experience?

Objectives of the study

- 1- Knowing the role of middle school teachers in developing higher-order thinking skills among students of talent classes in Denmark.
- 2- Knowing the differences between the degree of middle school teachers practicing in developing higher-order thinking skills among students of talent classes in Denmark according to the variables (gender - educational qualification - years of experience).

The importance of studying

The importance of this study lies from two aspects, the theory and the practical side:

The theoretical side

- Enriching theoretical literature related to higher thinking skills and shedding light on the reality of practicing higher thinking skills among talented middle school students in the State of Denmark, which could provoke researchers to conduct other studies that address roles that have

not been addressed, such as the reality of practice (analysis - evaluation - composition) in Development of higher-order thinking skills.

The practical side

- The results of this study may contribute to activating the role of middle school teachers in developing higher thinking skills among students of talent classes in Denmark, by suggesting experts and educators the principles that should be activated when developing higher thinking skills, at the level of the student, the curriculum and the teacher as they are consistent with these Study with global trends that develop higher thinking skills through educational institutions.

Terminology of study

- Gifted students: Renzulli identified them and referred to in Awamleh (2015) "are those who are distinguished by general capabilities, above average and at high levels of commitment to the tasks assigned to them, and they have high levels of creativity and creativity, and they are those who possess or have The ability to develop this complex set of features and put them into employment in any area of human performance."
- Higher thinking skills: the widespread and sophisticated use of mental processes, and this occurs when the individual interprets, analyzes, evaluates and processes information, or solves a problem that cannot be solved through the normal use of minimal thinking skills. (1991, Newmann).

Study limits and limitations

Human frontiers: It includes the study personnel in the State of Denmark.

Temporal limits: application of this study in the academic year 2019/2020.

Spatial limits: The special classes for the gifted in the State of Denmark.

Theoretical framework

One of the most famous concepts that concerned with the concept of the gifted is: The concept of the American Bureau of Education, which indicates that gifted students are those who give evidence of their ability to high performance in general mental ability, private academic aptitude, creative thinking and leadership ability, visual and performing arts, and ability Psychomotorism (Clark, 1992).

Gallagher believes that the gifted student is the student who needs to be qualified to be exposed and needs special educational programs for personal growth and social welfare (Jarwan, 2008).

Sorour (2003) notes that talent is "the willingness and ability to produce new ideas in various aspects of life (moral, material, social, mental and aesthetic), and the possibility of distinct achievement in front of a society that appreciates achievement, where excellence is the result of an interaction of five factors, namely: ability General mindset, special ability, factors unrelated to intelligence, environmental factors, and luck factors."

Hence, we see that the concept of talent relates to the capabilities possessed by students that enable them to demonstrate distinction in a specific field or fields, and the extent of the student's possession of talent relates to the extent of society and educational institutions discovering the inherent talents of students in order to be useful to society and the progress of the nation.

The dimensions of the concept of talent go beyond the concept, and the concept refers to the possibility of classifying the concept of talent into four groups based on the theoretical background or the prominent feature of each of them. Jarwan (2013) classified the definitions of talent to the following:

First the quantitative definitions

They are definitions based on the quantitative basis in terms of intelligence or the relative distribution of mental ability according to the natural equilibrium distribution curve, for example, we say, for example, a gifted student is everyone whose IQ was measured by the Stanford-Binet scale for intelligence 130 or more, or whoever falls within the top 5% of a society The school, school district, or

country is at stake. Terman was the first to lay the foundations for this trend in his well-known study in which the IQ took 140 a watershed of talent and genius, and the definition of a talent varies depending on the degree of talent that is taken as the boundary between the talented and the non-talented. And if the IQ is adopted as an arbitrator, the proposed cut-off points vary widely from one authority to another and extend between the IQ ratios from 115-180, but most of the actually used cut-off points lie between 125 and 135.

Second: definitions of behavioral characteristics

Studies and research have reached the conclusion that gifted children show patterns of behavior or traits that distinguish them from others, and some researchers have seen that such traits serve as a frame of reference for identifying talent and identifying talented people, and they have designed measures and tools that can be used by those who know the child well even Their appreciation of the degree to which the attribute exists is objective and somewhat honest. Perhaps the teacher, through his direct contact with children in the stages of study, is the most knowledgeable person and able to assess and define their behavioral traits, and despite the criticisms directed at these standards, they provide valuable information that can be used to identify gifted students.

Third: Definitions related to the needs of society:

These definitions imply a clear response to the needs and values of society without regard to the needs of the individual himself. And since the prevailing needs and values of society are subject to change from one country to another and from one age to another according to the type of political and economic ideology and prevailing beliefs, these definitions are also not rigid and are influenced by the determinants of time and space, and therefore the talented and excelling in a primitive society is not gifted and excels in a technically or industrially advanced society.

Fourth: Educational definitions:

It refers to all definitions that include a clear indication of the need for differentiated educational projects or programs - including the curriculum and teaching method to meet the needs of gifted and talented children in many fields. The most famous internationally accepted definitions fall within this framework. Examples of these definitions include:

A- Definition of the American Education Office

The US Education Bureau adopts a definition that a specialized committee reached in 1971 and approved. Before the US Senate. The basic version presented by the then US Education Commissioner Marland (1972, Marland) included the following elements:

- 1- Gifted and talented children are revealed by professionally qualified persons
- 2- The regular school program does not meet the needs of these children, and they need a differentiated educational program, curriculum and style.
- 3- The gifted and talented child is the one who provided evidence of his high achievement or his aptitude for this in the following fields combined or individually: (general mental ability, special academic preparation, creative or productive thinking, leadership ability, visual or performing arts, psychomotor ability)

The concept of thinking skills

Thinking skills are one of the mental processes that we intentionally use and use in processing information and data to achieve various educational goals ranging from remembering information, describing things, taking notes to predicting things, classifying things, evaluating evidence, solving problems, and reaching conclusions (Saada, 2003).

Wilson (2000) has defined the concept of thinking skills as those mental processes that we perform to collect, preserve and store information, through procedures of analysis, planning, evaluation and reaching conclusions and making decisions.

Stenberg (1985, 1985) noted that knowledge is important but often becomes old, while the performance skills of thinking remain ever new, so that we can acquire and infer knowledge regardless of time and place or the types of knowledge that thinking skills are used to deal with, which shows that Learning thinking skills is tantamount to providing the individual with the tools he needs to deal

effectively with any type of information and future variables, especially since learning thinking performance skills and their processes remain valid and renewable in terms of their usefulness and use in the processing of information of any kind.

Thinking skills levels

Bloom (1956) categorized cognitive goals into six levels or consecutive hierarchical mental skills of varying ease and difficulty, as follows:

The first level: knowledge and recall (Recall)

It is the ability to remember, retrieve and repeat information that was previously learned, without a little change, and this may include calling a large number of materials starting from simple facts and ending with principles, laws and theories, and they are called upon by providing the learner with some clues that facilitate the process of remembering, and this level may represent a lower Levels of cognitive outcomes.

Sprinthall (1994, 1994) indicates that this aspect can be evaluated using direct questions or multiple test questions. The purpose of the evaluation is to choose the student's ability to call the facts and determine the information that has been learned and repeated, and the teacher does not ask the learner to make judgments or analyze ideas, he simply attempts to He knows what he can retrieve from the learned material.

Second level: Comprehension

(Al-Ayasrah, 2011) indicates that assimilation and understanding is the ability of the learner to receive, understand, and benefit from the information contained in a particular subject (the ability to possess the meaning of the material and know the content that he uses unnecessarily to link it to another subject), and we can infer this level of Through three operations:

- a) Translation: It is the ability of the learner to accurately transfer certain information from one formula to another while preserving the elements, meanings and ideas contained in the original information formula such as: reformulating some definitions, concepts from the abstract picture to another, or retelling an event.
- b) Interpretation: It is the ability to reorganize, display, explain, or summarize the ideas contained in a particular subject such as: reformulating a literary piece in the learner's own language, or studying a problem and reporting on it.
- c) Completion (conclusion): It is the ability to transcend the given information and to derive any possible implications, trends and implications, that is, future implications such as forecasting the effects that may result from a problem.

The level of assimilation and understanding can be evaluated by the student reformulating the material learned in his own way, or reorganizing or completing ideas or performing forecasting or estimation, and at this level an activity is required from the student that exceeds his efforts in the previous levels. (Sprinthall, 1994)

The third level: Application

"It is the ability to use or apply information, theories, principles, laws, and methods in realistic or new situations. At this level, the transition from the abstract theoretical level to a practical, concrete level, and thus includes the application of rules, methods or principles to new situations." (Ayasrah, 2010)

Assessment of the application level: The assessment of the student at this level requires the teacher to go beyond the normal procedures, in order to assess well how far the student can apply what he has learned, so the teacher knows the extent of the student applying his knowledge in addition and

subtraction through buying and selling operations Fake student performs in the classroom. (1994, Sprinthall).

The fourth level: Analysis

It is the ability to segment or analyze information, elements, relationships, or complex knowledge into its parts that make up it, and to know the relationship between parts. The ability to analyze includes three levels:

1. Analyzing the content into the main elements, such as: classifying prayer works into pillars and sunnahs
2. Analysis of the relationships between judgments and issues, correlations and interactions: an analysis of the relationships between the main parts that make up the subject, such as the relationship between behavior and motivation.
3. Analysis of organizational principles: an analysis of the foundations, rules, concepts and principles that make the material a regular structure and identification of assumptions and allegations not included, or the learner can be given a legal text and then be asked questions that lead to an analysis of its aspects.

Analysis among students can be evaluated through: discussion sessions in which some issues are raised, and students give their views. This type of analysis is called (Critical Thinking), which allows us to distinguish between opinions and facts and compare different ideas (1994, Sprinthall).

Fifth level: Synthesis

It is the ability to collect elements or parts to form an integrated whole or a pattern or structure that does not exist at all to form a new. The educational outcome at this level focuses on innovative behavior, that is, the formation of new structural patterns. The ability to install includes three levels:

- To produce unique new ideas, such as writing a topic on honesty.
- Produce plans or a proposed set of operations to control a specific work or duty, such as proposing a trip project to the shrines of the Companions, or a plan to help poor students in school
- Deriving a set of abstract relationships: the production or conclusion of some new abstract relationships that help to interpret data or phenomena or lead to new solutions to the problem, such as discovering the role of reason in arriving at the reality of God Almighty. (Ayasrah, 2010)

To assess the installation level and build on the teacher, make evaluation at this level designed to produce new ideas, methods, and procedures (Sprinthall, 1994).

Sixth level: evaluation (judgment)

Calendar means the ability to make judgments about the value of ideas or actions according to specific criteria or criteria (knowing the validity of things in light of certain criteria), and these judgments may be qualitative and may be quantitative. Also, judgments may be issued in the light of: internal evidence as an evaluation of content in the light of internal evidence to know the extent of its internal consistency and accuracy, such as: infer judgments without introductions, or use more than one concept meaning in one place. It was issued in the light of external evidence to evaluate the content and verify its consistency with the goals and methods, such as criticizing literary work using literary criteria (Al-Ayasrah, 2010). Assessment of the evaluation level includes developing critical evaluation skills and essay questions focus on critiquing theories, literary works and historical interpretations. To do this successfully, students need a logical and comprehensive framework as a basis for sentencing (1994, Sprinthall).

Previous studies

This part of the study presents previous studies that dealt with activating higher-order thinking skills for gifted and regular students, and they are classified into Arabic and foreign studies, and are arranged from oldest to most recent:

First Arab studies

Al-Hadabi and Al-Ashwal study (2012) aimed to identify the availability of thinking some of the higher-order thinking skills of gifted students in the secondary stage in the cities of Taiz and Sana'a, and the study sample consisted of (121) students from gifted students, and the researcher concluded that the degree of individuals owning the thinking skills The higher education did not reach the educationally acceptable level, and there were no statistically significant differences between the average levels of males and females on the test of higher thinking skills as a whole, but it was found in the skill of deduction for the benefit of students, and in the skill of knowing the assumptions the result came in favor of students.

Al-Sawafta study (2013) aimed to know the impact of a training program based on educational games in developing higher thinking skills such as creative thinking, critical thinking and problem solving for students in the upper basic stage in Jordan who are in their teens, and the individual study is composed of (40) students divided into two divisions Of the tenth grade students, a training program was prepared consisting of 23 training sessions, and the study found that there were statistically significant differences between the averages of the performance of the experimental group and the control group on verbal Torrens creative test, and that the difference was in favor of the experimental group, and the presence of differences of significant significance Statistical significance between the performance averages of the experimental group and the control group on testing the problem-solving method for the benefit of the experimental group, and in light of these results the study recommended the application of modern methods and strategies focusing on higher thinking skills and moving away from traditional methods of teaching and establishing and developing initiatives and centers that adopt teaching higher thinking skills And the necessity of integrating those skills in the school curricula in an extended and complementary manner, and recommended that teachers be trained in higher-order thinking skills and their qualification.

Abdelkadir's study (2014) aimed to identify the higher thinking skills included in mathematics books for the upper basic stage in Palestine from the viewpoint of teachers, and aimed to identify the level of critical thinking skills, creative thinking skills, problem-solving skills and decision-making skills, and the results concluded that skills Higher thinking is included in math books with an average degree, and has recommended the need to take advantage of the list of higher-order thinking skills identified in the study, and review the adequacy of examples and exercises mentioned in math books for each of the skills.

Hammadneh and Assi study (2015) aimed to identify the level of critical thinking among gifted students in Jordan, and the study sample consisted of (173) male and female students, and the results showed that the level of critical thinking among the sample members was at an average level and below the expected level, and the results also showed differences Statistically significant in skills of critical thinking (analysis, reasoning, deduction), and critical thinking as a whole attributed to sex and for the benefit of females, the study recommended the necessity of activating modern strategies and programs in building educational curricula in various subjects and presenting them to students in ways based on critical thinking and skill Went.

The Saudi and Al-Akol study (2016) aimed to reveal the effect of an educational program based on the principles of (RISK) in classroom situations and an achievement test. (25) female students, and the results showed that there is a statistically significant effect of the educational program based on the principles of (RISK) in improving academic achievement in the subject of Islamic education, and improving higher-order thinking skills for eighth grade students, and recommended adopting the educational program in teaching Islamic education and including it in programs Teacher training before and during service.

Foreign studies

Facion (1990) conducted a study aimed at improving higher thinking skills among Valtron students in California state, the study sample consisted of (48) male and female students who represent the control group, and (46) male and female students who represent the experimental group and have received lessons in critical thinking and included training On the skills of reasoning, problem solving, philosophy, need, logic and critical reading, and the results indicated the experimental group's superiority over the control group in higher thinking skills.

And Rice (1992, 1992) conducted a study aimed at increasing the higher-order thinking skills of fourth-graders through problem-solving activities. The sample included (11) students and (19) students. The study focused on developing six thinking skills, namely classification and serial identification. Conclusion, matching, deductive reasoning, and mathematical problem solving. The results of telemetry revealed an improvement in the study sample in higher thinking skills, but they did not achieve any improvement in the skill of solving mathematical problems.

Chamberlain (1993) conducted a study aimed at knowing the impact of the philosophy program for children in developing critical thinking, as the study sample reached (80) students from gifted students in the fourth and fifth grades, and they were divided into two control and experimental groups, and the results of the study indicated the existence of Statistically significant differences between the experimental group and the control group in the New Jersey test of critical thinking in favor of the experimental group.

Dixon, Brett van Werck, Williams, Hanchon and Shoppe (Dixon, Prater, Vine, Wark, Williams, Hanchon & Shobe, 2004) conducted a study aimed at revealing the effectiveness of education by thinking in developing thinking among gifted students, and the study sample consisted of (93) gifted students selected from the fourth and fifth grades of those enrolled in creativity development programs in the United States of America, where the Dixon and Hemeladin method was used in teaching thinking, and the results indicated that the higher level of thinking among gifted students was high after completing the application of the program, The most prominent higher-order thinking skills used by students Hoppin is the analysis and evaluation.

Comment on previous studies

It is noted after reviewing previous studies related to the topic of higher thinking skills that they have addressed the topic of developing some of the thinking skills, as they emphasized the importance of developing higher thinking skills and its practice and applying it to all educational curricula such as the Newman study (2008), the study of Hamadenah and Asi (2015), Thus, previous studies converge with this study on its subject. The current study benefited from previous studies in looking at theoretical literature and the results of studies that influenced theoretical knowledge and supported and established the problem of this study.

Method and procedures

Study participants

This study was applied to the teachers of the special classes for the gifted in the State of Denmark, and they were chosen by the stratified random method.

Table (1)

Distribution of study sample individuals according to variables (gender - educational qualification - years of experience)

	Variable	Repetition	The ratio
Gender	Male	46	54.8
	Female	38	45.2
	Total	84	100%
Qualification	BA	67	79.8

	Master and above	17	20.2
	Total	84	100%
Years of Experience	Ten years or less	33	39.3
	More than 10 years	51	60.7
	Total	84	100%

Study tool

The researchers designed a special questionnaire for middle school teachers to know their role in developing higher thinking skills among the students of talent classes in Denmark, and it was prepared according to the relevant references. The study tool included five areas:

- The field of the teacher's role in developing higher-order thinking skills.
- The scope of the curriculum and teaching methods in developing higher-order thinking skills.
- The scope of the school administration role in developing higher-order thinking skills.
- The field of school activities in developing higher thinking skills.
- The field of difficulties facing teachers in developing higher-order thinking skills.

Verify the significance of the paragraph relevance to the field:

To extract the significance of construction ratios for the scale, the parameters of the correlation of the scale paragraphs with the total score in an exploratory sample from outside the study sample consisted of (30) teachers, where the paragraphs of the scale were analyzed and the discrimination factor is calculated for each of the paragraphs, as the discrimination factor here represents a sign of honesty with respect to For each paragraph in the form of a correlation coefficient between each paragraph and the overall degree on the one hand, and between each paragraph and its correlation with the axis to which it belongs, and between each field and the overall degree on the other hand, the parameters of the correlations of the paragraphs with the tool as a whole ranged between (0.48-0.94), With field (0.49-0.95) and table (2) shows that.

Table (2)

Correlation coefficients between domains and the overall score

	The teacher	Curriculum and teaching methods	School activities	The school administration	Total Marks
The teacher	1				
Curriculum and teaching methods	.776**	1			
school activities	.790**	.825**	1		
The school administration	.824**	.636**	.635**	1	.914**
Total marks	.952**	.858**	.846**	.914**	1

* Statistically significant at the significance level 0.05.

** Statistically significant at the significance level 0.01.

The stability of the study tool

To ensure the consistency of the study tool, the test-retest method was checked by applying the test, and re-applying it after two weeks to a group outside the study sample consisting of (30), and then the Pearson correlation coefficient was calculated between their two-time estimates on a tool the study as a whole.

The stability coefficient was also calculated by the method of internal consistency according to the Cronbach alpha equation, and Table No. (3) Shows the coefficient of internal consistency according to the Cronbach alpha equation and the stability of the return for the fields and the tool as a whole, and these values were considered appropriate for the purposes of this study.

Table (3)

The field	Steady return	Internal consistency
The teacher	0.96	0.97
Curriculum and teaching methods	0.94	0.95
school activities	0.93	0.92
The school administration	0.94	0.98
Total marks	0.95	0.98

Statistical correction standard

The Likert five-step ladder was adopted to correct the study tools, by giving each of its paragraphs one of the five degrees (very large degree, great degree, medium degree, little degree, very little degree) and they represent digitally (5, 4, 3, 2, 1) respectively, the following scale has been adopted for the purposes of analyzing the results:

From 1.00 - 2.33 a few

2.34 - 3.67 average

From 3.68-5.00 is great

Study methodology:

Use the descriptive approach to its relevance to the aim of the study to find out the role of middle school teachers in developing higher thinking skills among students of talent classes in Denmark, and the following statistics were used to answer the study questions:

The Alpha Cronbach lab.

Test-T

Triple contrast analysis test.

Pearson's Coefficient Coefficient.

Frequencies and percentages.

Frequencies and percentages.

Results

The first question: What is the role of middle school teachers in developing higher-order thinking skills for students of talent classes in Denmark?

To answer this question, arithmetic averages and standard deviations were extracted for the role of middle school teachers in developing higher-order thinking skills among students of talent classes in Denmark, and Table (4) illustrates this.

Table (4)

Mathematical Averages, Standard Deviations, Ranking and Grade of Study Sample Estimates, for the Role of Intermediate Stage Teachers in Developing Higher Thinking Skills Among Students of Talent Classes in Denmark (Descending)

Rank	The number	The field	The Mean	Standard Deviation	Degree of appreciation
1	4	The school administration	4.38	.655	High

Rank	The number	The field	The Mean	Standard Deviation	Degree of appreciation
2	1	the teacher	4.36	.535	High
3	3	school activities	4.22	.635	High
4	2	Curriculum and teaching methods	3.87	.636	High
5	5	Difficulties	2.21	1.060	Low
		The role as a whole	4.25	.475	High

Table (4) shows that the arithmetic averages ranged between (2.21-4.38), where school administration came in the first rank with the highest arithmetic average and with a high degree of appreciation, and the field of the teacher came in second place with a high degree of appreciation, and the field of school activities came in third With a high degree of appreciation, followed by the field of curriculum and teaching methods in the fourth rank with a high degree of appreciation, while the difficulties came in the last rank with a low degree of appreciation, and the arithmetic average for the role as a whole (4.25) and a high degree of appreciation.

The second question: "Are there statistically significant differences at the level of significance ($\alpha = 0.05$) in the role of middle school teachers in developing higher-order thinking skills among students of talent classes in Denmark due to gender, qualification, and experience variables?"

To answer this question, arithmetic averages and standard deviations were extracted for the role of intermediate stage teachers in developing higher-order thinking skills for students of talent classes in Denmark according to gender, qualification, experience, and the table below shows that.

Table (5)

Mathematical Averages and Standard Deviations for the Role of Intermediate Stage Teachers in Developing Higher Thinking Skills Among Students of Talent Classes in Denmark by Gender, Qualification, and Experience

			The teacher	Curriculum and teaching methods	School activities	The school administration	The role as a whole
Sex	Mention	S	4.41	3.98	4.40	4.49	4.35
		P	.504	.601	.526	.587	.390
	female	S	4.30	3.74	3.99	4.25	4.12
		P	.570	.659	.686	.715	.540
qualification	BA	S	4.31	3.92	4.19	4.38	4.24
		P	.566	.669	.632	.672	.514
	Master and above	S	4.56	3.68	4.32	4.40	4.29
		P	.329	.453	.659	.603	.272
Experience	Ten years or less	S	4.46	3.86	4.20	4.25	4.23
		P	.580	.733	.768	.786	.545
		S	4.30	3.88	4.22	4.47	4.26

			The teacher	Curriculum and teaching methods	School activities	The school administration	The role as a whole
	More than 10 years	P	.499	.572	.541	.546	.428

X = mean, p = standard deviation

Table (5) shows an apparent variation in arithmetic averages and standard deviations of the role of middle school teachers in developing higher-order skills among students of talent classes in Denmark due to the different categories of gender variables, qualification, and experience.

To demonstrate the significance of the statistical differences between the arithmetic averages, multiple triple variance analysis was used on the fields Table (5) and triple variance analysis of the tool as a whole table (6).

Table (6)

The results of the multivariate triangular analysis of the comparisons between the mathematical averages of the teachers' estimates about the role of the intermediate stage teachers in developing higher thinking skills among students of talent classes in Denmark according to the levels of gender variables, educational qualification, and years of experience.

Source of contrast	Domains	Sum of squares	Degrees of freedom	Average squares	Value of p	Statistical significance
Sex	The teacher	.910	1	.910	3.369	.070
Hoteling = .176	Curriculum and teaching methods	.956	1	.956	2.401	.125
H = .013	school activities	4.476	1	4.476	12.434	.001
	The school administration	.932	1	.932	2.211	.141
Qualification	The teacher	1.055	1	1.055	3.906	.052
Hotelling = .197	Curriculum and teaching methods	.391	1	.391	.983	.324
H = .007	school activities	.914	1	.914	2.538	.115
	The school administration	.198	1	.198	.470	.495
Experience	The teacher	.644	1	.644	2.386	.126
Hoteling = .094	Curriculum and teaching methods	.079	1	.079	.198	.658
H = .136	school activities	.105	1	.105	.291	.591
	The school administration	.559	1	.559	1.327	.253
The error	The teacher	21.606	80	.270		

Source of contrast	Domains	Sum of squares	Degrees of freedom	Average squares	Value of p	Statistical significance
	Curriculum and teaching methods	31.855	80	.398		
	school activities	28.798	80	.360		
	The school administration	33.709	80	.421		
Total	The teacher	23.737	83			
	Curriculum and teaching methods	33.580	83			
	school activities	33.511	83			
	The school administration	35.622	83			

Table (6) shows the following:

- There were no statistically significant differences ($\alpha = 0.05$) due to the effect of sex in all fields except for the field of school activities and the differences were in favor of males.
- There were no statistically significant differences ($\alpha = 0.05$) due to the effect of the qualification in all fields.
- There were no statistically significant differences ($\alpha = 0.05$) due to the effect of experience in all fields.

Table (7)

Triangular Variation Analysis of the Impact of Sex, Qualification, and Experience on the Overall Degree of the Role of Intermediate Stage Teachers in Developing Higher Thinking Skills Among Students of Gifted Classes in Denmark

Source of contrast	Sum of squares	Degrees of freedom	Average squares	Value of p	Statistical significance
Sex	1.238	1	1.238	5.698	.019
qualification	.216	1	.216	.994	.322
Experience	.007	1	.007	.030	.862
Error	17.385	80	.217		
Total	18.689	83			

It is evident from the following table (7):

- There were statistically significant differences ($\alpha = 0.05$) due to the effect of sex, where the value of P was 5.698 and with a statistical significance of 0.019, the differences came in favor of males.
- There were no statistically significant differences ($\alpha = 0.05$) due to the effect of the qualification, as the value of P was 0.994 and with a statistical significance of 0.322.

- There were no statistically significant differences ($\alpha = 0.05$) due to the effect of the experience, as the value of P was 0.030 and the statistical significance was 0.862.

Discuss the findings and recommendations

The first question: What is the role of middle school teachers in developing higher-order thinking skills for students of talent classes in Denmark?

The results indicated that the role of middle school teachers in developing higher-order thinking skills for students of talent classes in Denmark came high; the researchers attribute that the special classes for the gifted in Denmark enjoy a good amount of development for caring for talented students, and those classes enjoy a good amount of specialized teams in Care for the gifted and talented, and the role of the school administration in developing higher-order thinking skills for students of talent classes in Denmark came in the first place with the highest arithmetic average and a high degree of appreciation, and the researchers attribute that the administrative system for the special classes for the gifted has a high level J in embracing and guiding talented students and teachers by providing continuous support and cooperation to develop higher thinking skills among gifted students, and the field of the role of the teacher came in the second rank with a high degree of appreciation, which indicates the charity of the gifted center in the State of Denmark to choose the appropriate teacher with experience in developing thinking skills The highest among gifted students, especially that teachers can only be admitted in the classes for gifted students after the teacher has gone through several criteria to measure his ability to teach gifted students, and the field of school activities came in the third rank It is not high, which indicates that the special classes for the gifted have a plan in the implementation of school activities, whether at the class level or at the external level at the level of other classes for the gifted, followed by the role of the curriculum and teaching methods in the fourth rank with a high degree of appreciation, while the difficulties came in the last place With a low degree of appreciation; the researchers attribute that the reason for the decrease in difficulties is only a practical planning result that relieves teachers and students of all the pressures and difficulties that hinder the development of higher thinking skills among the gifted students, and the researchers attribute that the special classes for the gifted have an ed A flexible and democratic plan and plan, and this study differed with each of the following studies:

Al-Hadabi and Al-Ashwal study (2012) aimed to identify the availability of thinking some of the higher-order thinking skills of gifted students at the secondary stage in the cities of Taiz and Sana'a, and the researcher concluded that the degree of individuals owning the higher-thinking skills did not reach the educationally acceptable limit, and they differed with the study of Abd Al-Qadir (2014) aimed to identify the higher-order thinking skills included in mathematics books for the upper basic stage in Palestine from the teachers point of view, and the results concluded that the higher-thinking skills are included in the math books with a moderate degree.

The current study agreed with a study ((Dixon, Prater, Vine, Wark, Williams, Hanchon & Shobe, 2004) aimed at revealing the effectiveness of education by thinking in developing thinking among gifted students, and the results indicated that the higher level of thinking among gifted students was a high degree .

The second question: "Are there statistically significant differences at the level of significance ($\alpha = 0.05$) in a role

Middle school teachers in developing higher-order thinking skills for Denmark students' talent classes due to gender, qualification, and experience variables?

The results of the study indicated that there are no statistically significant differences in knowledge of the role of middle school teachers in developing higher thinking skills among students of talent classes in Denmark due to the impact of sex in all fields except for the field of school activities and the differences came in favor of males, and the researchers attribute that teachers have a greater opportunity in the field External activities such as organizing trips, whether inside or outside Denmark, which led to the friendliness of the difference between the activities provided for male and female teachers, and the results of the study indicated that there are no statistically significant differences in the knowledge of the role of middle school teachers in developing higher thinking skills in Students of the talent classes

in Denmark are attributed to the impact of the educational qualification in all fields; the researchers attribute that the criterion for admission to the special classes for gifted students is the interviews and tests provided for teachers who want to teach in the field of gifted education and that the educational qualification is only a secondary requirement and the teacher's personality was a primary aspect of admission regardless. Regarding the existence of higher educational qualifications, the study indicated that there are no statistically significant differences due to the effect of experience in all fields.

Recommendations

In light of the results indicated by the study, the researchers recommend the following recommendations:

- The need to reconsider the programs offered to gifted students through the interest of those in the chapters on the latest developments in international standards for caring for the gifted in all fields.
- The need to take care to present curricula that develop higher thinking skills, such as the existence of exploratory and self-learning, which develops the student's ability to (analyze, synthesize and evaluate).

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