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Attitude of Teachers Working in Gifted Schools and Ordinary Schools towards Creative Thinking

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Author's contribution

This whole work was carried out by author JT.

Original Research Article

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ABSTRACT

Aims: This study aimed to identify the attitude of teachers working in gifted and ordinary schools, towards creative thinking in Tafila governorate, and the differences between attitudes pertaining creative thinking according to variables of experience, gender, specialization and type of school.

Study Design: This study used the analytical descriptive design.

Place and Duration of Study: The study was conducted at Tafila Governorate - Hashemite Kingdom of Jordan; in the first semester of the academic year 2012/2013.

Study Sample: The study Sample consisted of (58) male and female teachers of ordinary schools, and (60) male and female teachers from gifted schools in Tafila governorate.

Methodology: The study sample included 118 male and female teachers, for the first semester of the academic year 2012/2013. It was divided into two groups; one group was selected purposively of teachers working in King Abdullah II School for Excellence and the Pioneer Center for gifted students, and it consisted of (60) male and female teachers, and the other group has been selected randomly from ordinary schools, it consisted of (58) male and female teachers. In order to collect data about the attitudes towards creative thinking, the researcher used in the study a questionnaire prepared by the researcher himself to identify the attitudes towards creative thinking.

Results: Attitude of teachers in gifted schools towards creativity were moderate and their mean was (2.77) and the standard deviation was (0.73), Attitudes of teachers in ordinary

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schools towards creativity were moderate and their mean was (2.62) and with standard deviation (0.67).

Moreover, there were no statistically significant differences in gender at the level ($p \leq 0.05$) between the attitudes of gifted school's teachers and teachers working in ordinary schools towards creative thinking. However, the result also showed that there were statistically significant differences at the level ($p \leq 0.05$) between the attitudes of the two different schools teachers due to the variable of experience (more than 5 years).

Conclusion: The attitudes of teachers in both, gifted and high achievers schools and ordinary schools towards creative thinking were moderate.

Keywords: Attitude; creative thinking; gifted schools; ordinary schools.

1. INTRODUCTION

Creativity is a refined form of human activity and a fertile image of human behavior, because it is the way to develop human growth and the progress of the world as a whole [1]. Creativity has become an important requirement to the development of the nation and its progress and advancement of all levels and aspects.

Creative thinking contributes in increasing the adequacy of mental work for students while dealing with situations, and helps with developing positive attitudes towards learning, which increases the motivation and activity of students; hence teachers play an important role in training students to activate creative thinking and development; and providing many interaction opportunities [2].

As a result, detection of creative thinking skills has a great deal of importance. Having these skills provides teachers with a positive impact, and that could be reflected in the performance of teaching in the classroom; as he/she becomes a conscious teacher having creative thinking strategies, as well as believing that the ultimate goal of education lies in the requested development of the students' thinking skills, their energies, abilities and refining their talents, in addition to giving them a measure of freedom and a place for creativity [3].

Generally, the development of creative thinking is considered as the most important objective of education. It builds the development of human mental abilities. The main objective of the educational process is the responsibility of the teacher for the development of creative thinking skills. In addition, the development of creative thinking skills makes it imperative for the teacher to use some of the teaching methods and techniques that have proven the feasibility of educational studies, such as the way of posing debate questions and mode teaching [4].

Thus, the creative teacher is the basic of the teaching process in the classroom, and his role in stimulating the creativity of students, and their development is a proof of his ability to take the right path towards the preparation of creative minds but not counterfeit, which leads to the possibility of learning and teaching creative thinking [5].

So, the world pay teachers a great attention to enable them to meet educational goals, the teachers' high performance enhance the performance of their students [6].

A teacher is the one who creates a proper atmosphere which strengthens the learner's self-confidence or weakens it, strengthens the spirit of creativity or weakens it, raises critical thinking or frustrates it. Moreover, a teacher opens the way for performance or closes it [7]. A survey was conducted by Ranzulli (1968) as stated in [7] in the field of gifted education and the result showed that the teacher occupies the first place in terms of importance between 15 factors mentioned by experts working in the field of teaching gifted students.

Amer [6] indicated that a successful teacher should enjoy teaching gifted and high achieving students. He should have a number of personal characteristics, and attend necessary professional competence programs of rehabilitation training, and development of both theory and practical knowledge of teaching. The goal of preparation is to develop knowledge of the special needs of outstanding students, and the development of positive attitudes for high achievers and raise his readiness to provide special services to them.

Kokot [8] recommended that there are points that must be understood to develop creativity in the classroom such as: respecting the students' questions and ideas, giving time for activity planning, and the inclusion of free discussions such as: brainstorming. Students participation activities should include encouragement phrases such as: beautiful, creative, and great, wonderful, should be used to promote the awareness and the sense towards the environment which affects the students.

Tartori and Al-Qidah [9] and Davis and Joseph [10] suggested several solutions to remove the obstacles facing the development of creative thinking: Education should include innovation and encouraging exercises through the development of special programs for the preparation of creative teachers, together with continuous training and development of their vocational education, and the development and modified of teachers attitudes towards creativity and creators.

Mafraji [11] identified a set of features that characterize innovative teachers including: Maturity, wide experience, interests and multiple preferences, understanding others, the ability of raising pupils, the desire in teaching, the positive attitudes towards students, self-control, perseverance, organization, imagination, enthusiasm, encouraging students to participate in class activities, encouraging students to express their opinions to be considered. According to Otoum, Jarah, and Bishara [12], the creative individual depends on the appropriate environmental focus.

Mclan [13] and Treffinger and Isaksen [14] pointed out that teacher is able to employ the creative skills that he has learned to solve problems, depending on several factors, such as the students' personal preferences, encouraging environment for creative solutions, students individual attitudes to change their favorite behavior, and treating problems that affects creativity.

Teachers have an active role in developing the creative attitudes and modifying them. So, the teacher is responsible of raising an atmosphere which evokes the creative capabilities of students through promotion practices of innovative and creative ideas, to help them to expand their imagination. These include raising questions in the field of thinking; observation, perception, interpretation, translation, and conclusion; the teacher who holds positive attitudes towards education, is the teacher who requests innovation, focuses on teaching and classroom activities aimed at discovery training, and concentrates on the students in addition to giving them their freedom and contributes in the development of their thinking and broad imagination, together with raising motivation thinking, and monitoring the

performance of students and taking care of solving the problems they face in their environment [15].

Several studies have been conducted to the subject of the study; one of them is the study of Sous [16] aimed at determining the degree of teachers dealing with outstanding students in public secondary schools from the point of view of teachers and headmasters. The results showed that the degree of teachers' practicing strategies for dealing with outstanding students at the secondary level from the viewpoint of teachers and from the perspective of headmasters ranging from moderate to very large. is statistically significant due to gender in favor of male teachers, The presence of a statistically significant difference was due to the variable training courses for teachers received. However, results did not show the presence of statistically significant differences attributable to the variables of academic qualifications, years of experience, specialization of teachers, gender, qualifications, and years of experience for headmasters.

Lassig, [17] "study aimed at investigating the attitudes of Australian primary school teachers (N=126) towards intellectually gifted children and their education at eight schools. These schools could be categorized into four different classifications in regards to their involvement in gifted education. This was a quantitative survey research. Result findings include significant associations between teachers' attitudes and their school classifications ($p < .001$), and their participation in gifted education in-service training ($p < .001$). Findings from this study suggest that further teachers' training and school-wide involvement in gifted education may assist in improving attitudes towards intellectually gifted children and their education".

McCoach & Siegle [18] "study explores teachers' attitudes towards the gifted and gifted education. Specifically, the authors examine whether teachers tailor their responses about attitudes towards the gifted to fit the perceived interests of the students. In addition, the authors examine several potential predictors of attitudes towards the gifted: training or experience in gifted education, training or experience in special education, and self-perceptions as gifted. A total of 262 teachers participate in the study. The perceived epistemic interests of the researcher do not affect teachers' self-reported attitudes towards the gifted. Teachers who had received training in gifted education hold higher perceptions of themselves as gifted. However, teachers' self-perceptions as gifted are unrelated to their attitudes towards gifted education. Finally, special-education teachers hold slightly lower attitudes towards the gifted".

The aim of the study of Hamza and Griffith [19] was to identify how to create and promote a learning environment that stimulates creative thinking and problem-solving to students. Also, it aimed at identifying the methods needed by teachers to meet the challenges of the electronic world, and how they can treat students with these classrooms' environments. The study sample consisted of (210) male and female students. The researcher used the descriptive analytical method. The results showed that there was no specific method used in general teaching, or a specific way to stimulate creative education. Also, the results showed that teachers who stimulate the creativity are involved in the general characteristics. The most important are: Learning from successes and failures, they have a wide experience of the positive impact on the learners to have unique creative ways of learning, through discovery and experimentation, testing and questions, in addition to brainstorming and the respect of the views of students when having different views, and by creating a suitable atmosphere in the classroom with suitable classroom administration, and by choosing the

style of education (what, how and when?), with the interaction between the teacher and the student.

Owaidat's [20] study aimed at preparing a list of professional competencies, and social and personal characteristics of teachers of gifted students. The study sample consisted of all the students and teachers of the Yobeel School for gifted students. The study sample consisted of (286) male and female students, and (30) teachers. The study found that there is a group of professional competence, such as, (discussion and acceptance of the others' point of view of the students, has knowledge of creative tests, and skills which are conducted). While the social competencies were (respecting students personality regardless of their background or their failure, participating of students in social and recreational activities), and the personal characteristics that teachers of high achievers students should have (Maintains time and respect appointments, have a variety tendencies and interests).

The study of Mills [21] aimed at identifying the characteristics of active teachers for gifted students. The study sample consisted of (63) males and females teachers, and (1247) high achievers students. The study has found that most teachers specialize in the topic, which they teach but they do not hold an official certificate in gifted education, the study found that there is a similarity between the characteristics of teachers of gifted students and their students in terms of their preference intuition and thinking compared to ordinary teachers. Active teachers are characterized by openness, flexibility, and possess the ability of logical and objective analysis.

The study Onosko's [22] which compares the attitudes of teachers to their students and their classroom practices with the development of higher-order thinking. The study sample consisted of (10) teachers who applied note card related to the exercise of teachers to higher-order thinking and the researcher used the descriptive method. The results of the study showed the presence of statistically significant differences in the practice of teachers to develop higher-order thinking skills for the benefit of students.

1.1 Statement of Problem

Teachers play a great role to support any teaching programs for gifted students, and their attitudes towards creativity have a key role for encouraging the developmental levels of thinking skills for students. As long as these attitudes have that effective role in the teachers' performance; the researcher is keen to know if these attitudes are actually available to those teachers, in a field considered as one of the most important goals of modern education, which is Creative Thinking. The importance of preparing a study appeared, taking into account the attitudes of teachers towards creative thinking, because of that, most of the studies have focused some factors such as: academic qualifications, prior knowledge and years of experience, but not considering other factors such as: specialization, gender or type of school.

1.2 Objective of the Study

The study aims at:

- 1- Investigating the level of attitude of teachers for gifted and ordinary schools towards creative thinking in Tafila governorate- Hashemite Kingdom of Jordan.

- 2 - Finding out the differences between attitudes of pertaining creative thinking in Tafila governorate – Hashemite Kingdom of Jordan, according to variables of experience, gender, specialization and type of school.

1.3 Research Questions

The aims of the study are identifying the attitude of gifted and ordinary schools teachers towards creative thinking. In particular, this study attempts to answer the following questions:

- 1- What is the attitude level of gifted schools' teachers towards creative thinking?
- 2 - What is the attitude level of ordinary schools' teachers towards creative thinking?
- 3- Are there significant differences ($p \leq 0.05$) in the attitudes of teachers in the gifted schools and the teachers in the ordinary school towards creative thinking due to their gender?
- 4- Are there significant differences ($p \leq 0.05$) in the attitudes of teachers in the gifted schools and the teachers in the ordinary schools towards creative thinking due to the school type (gifted and ordinary schools)?
- 5- Are there significant differences ($p \leq 0.05$) of significance in the attitudes of teachers in gifted schools and teachers in ordinary school towards creative thinking due to the teacher's specialization?
- 6- Are there significant differences ($p \leq 0.05$) in the attitudes of teachers in gifted schools and teachers in ordinary school towards creative thinking due to their experience?

1.4 Research Hypotheses

- There are significant differences ($p \leq 0.05$) in the attitudes of teachers in the gifted schools and the teachers in the ordinary school towards creative thinking due to their gender.
- There are significant differences ($p \leq 0.05$) in the attitudes of teachers in the gifted schools and the teachers in the ordinary school towards creative thinking due to the school type (gifted and ordinary schools).
- There are significant differences ($p \leq 0.05$) of significance in the attitudes of teachers in gifted schools and teachers in ordinary school towards creative thinking due to the teacher's specialization.
- There are significant differences ($p \leq 0.05$) in the attitudes of teachers in gifted schools and teachers in ordinary school towards creative thinking due to their experience.

1.5 The Limits of the Study

The study includes the following limits:

Place limit: Tafilah Governorate- the Hashemite Kingdom of Jordan.

Time limit: The first semester of the academic year 2012/2013.

Human limit: Teachers working in King Abdullah II School for Excellence and others working in ordinary schools, at Tafila Educational Directorate.

2. METHODOLOGY

2.1 Population of the Study

The study population consisted of all classroom teachers in ordinary schools and all teachers of King Abdullah II School for Excellence and the Pioneer Center for gifted students in Tafila Governorate - Hashemite Kingdom of Jordan.

2.2 The Study Sample

The study sample includes 118 male and female teachers, for the first semester of the academic year 2012/2013. It was divided into two groups;

- The first group was selected purposively of teachers working in King Abdullah II School for Excellence and the Pioneer Center for gifted students and it consisted of (60) male and female teachers.
- The Second group was selected randomly from ordinary schools. The study sample was distributed by levels of study (gender, specialty, experience and type of school), and consisted of (58) male and female teachers.

Table 1, shows the number of the study sample distributed by levels of study (gender, specialty, type of school and experience).

Table 1. The study sample distributed by levels of study (gender, specialty, type of school and experience

School	Gender		Specialty		Experience	
	Females	Males	Scientific	Humanity	Less than 5 years	More than 5 years
Gifted Schools	22	38	31	29	22	38
Ordinary schools	24	34	22	36	32	26
Total	46	72	53	65	54	64

2.3 Study Instrument

The researcher used a questionnaire in the study which was prepared by the researcher himself, to identify the attitudes towards creative thinking.

The objective of the questionnaire was: identifying attitudes of teachers towards creative thinking. In order to prepare the questionnaire, the researcher reviewed the educational literature related to the research (Jarwan [23]; Barbakh [24]; McCoach, & Siegle [18]).

Initially, the questionnaire had (43) items, then upon advice got from local judgment, the items were reduced to (40) items; to be clearer and well organized. The questionnaire was prepared according to 4-point Likert-type scale, which has (always, often, sometimes, never) measurements, see appendix No.1. Where always =4. (High scores indicate positive attitudes towards the creative thinking). The participants of the study had a selection within four options. The upper limit of degrees of the participant in the questionnaire was (160) degrees, and the minimum was (40) degrees. This will help in determining the mean of the

degrees which is between (40-160) degrees. High score achieved for each examined teacher indicates the positive attitude towards creative thinking

2.3.1 Validity

The validity was established through expert judgment of professors in special education and education assessment. From the results of validation, 3 items were deleted from the questionnaire. The percentage of agreement was 87%.

2.3.2 Reliability

To calculate the reliability of the questionnaire, the test- retest method was used, and the correlation between the scores was $(r) = 0.86$.

2.4 Study Design

The researcher used the analytical descriptive design

2.5 Statistical Treatment

- Means and standard deviations were used to answer the first and the second questions.
- One-way ANOVA was used to answer the third, fourth, fifth and sixth questions.
- The following standard was used to define the degree of teachers' attitudes towards creativity on the items of the questionnaire:

The Highest level is (4) and the lowest is (1), the lowest level subtracted from the highest level got the result equals (3), then divided the result by (3) as the three levels as shown in the following formula:

$$3 \div 3 \text{ levels (high, mid., low)} = 1$$

Thus, the items' weights become as:

The item with mean of (3 to 4) means that the degree of teachers' attitudes towards creative thinking is high.

The item with mean of (2 to 2.99) means that the degree of teachers' attitudes towards creative thinking is moderate.

The item with mean of (1 to 1.99) means that the degree of teachers' attitudes towards creative thinking is low.

3. RESULTS AND DISCUSSION

- 1- To answer the first question: What is the attitude level of gifted school's teachers towards creative thinking?

The researcher had extracted the mean and standard deviation of the items as shown in Table 2.

Table 2. Mean and standard deviation of the item

Item No.	Item	Mean	Standard deviation	Rank
29	I think that the individuals with the creative capabilities play an important role in the development and progress of societies.	3.4500	0.87188	1
30	I see that the student is the center of the activity / the classroom is centered on the student.	3.2667	0.93640	2
40	Focus on the personal performance of the learner in the understanding of knowledge.	3.1167	0.97584	3
27	I feel working with creative students will be tiring.	3.0000	1.11993	4
20	I encourage students to express their views and discuss them.	3.0000	1.17891	5
26	I think that the objective of school is to develop of thinking and creativity among students.	2.9833	1.24181	6
25	I offer an opportunity for students to rely on themselves in learning.	2.9667	1.05713	7
14	I urge students to participate, find alternatives and make decisions.	2.9667	1.13446	8
13	I think that the promotion of outstanding creative performance is essential for creativity.	2.9667	1.19273	9
17	I encourage students to consider things from different angles.	2.9500	1.03211	10
8	I think that the basic role of the teacher is the education and development of creative thinking.	2.9500	1.19922	11
18	I encourage students to use new methodologies for solving problems.	2.9492	1.08951	12
19	I take into consideration the diversity and differences of the students thoughts.	2.9333	1.16250	13
39	I think that creative thinking is an effective way for the development of any society and modernizing it.	2.9167	1.15409	14
7	I think that creativity can be developed within the school.	2.9000	1.10008	15
3	I think that launching the freedom of thought is necessary for creativity development.	2.9000	1.23096	16
15	Preferring questions dealing with higher thinking skills (How? Why? What? And if?).	2.8667	1.11183	17
37	I think that developing of student's self-confidence helps them to solve the problems.	2.8167	1.26446	18
38	I think that this kind of thinking can be developed and educated.	2.8167	1.22808	19
35	I consider that the development of students ideas and linking them is essential for development of creativity.	2.8167	1.18596	20
31	I think that the diversity of learning sources in the school environment helps in the development of thinking and creativity.	2.8000	1.39602	21
24	I give students enough time to think about the educational activities.	2.7833	1.19036	22

Table 2 Continued.....

22	I train students using active learning and practice thinking skills such as: comparison, taking notes, classification, investigation and discovery.	2.7833	1.15115	23
10	I believe there is a need for introducing of new methods to assess the level of students and their achievements, such as self-assessment.	2.7333	1.00998	24
12	I tend to focus on increasing the scientific yield.	2.7167	1.14783	25
1	I really appreciate the new ideas of the students.	2.7167	1.27680	26
21	I think there are creative children in the classroom.	2.7000	1.18023	27
36	I see that thinking skills are integrated in the curriculum taught to students.	2.6833	1.09390	28
28	I think that creativity is genetically inherited and cannot be developed.	2.6667	1.33393	29
32	I discuss with students different ideas they state.	2.6500	1.17411	30
9	I prefer special training programs for the development of creativity.	2.6000	1.11728	31
5	I see that the use of divergent (multifarious) and motivational questions is necessary for the development of creativity.	2.5500	1.06086	32
6	I diagnose the students' creative obstacles and solve them.	2.5254	.98161	33
23	There are restricted educational events or that exist in the school curricula that I use.	2.5167	1.08843	34
4	I think that the teacher should use open-ended activities.	2.5167	1.04948	35
33	I avoid using of restrictive thinking methods.	2.4500	1.21421	36
2	I prefer postponing criticizing students ideas up to the case of generating ideas.	2.4500	1.12634	37
11	I tend to focus on the plans, laws and procedures.	2.3667	1.00788	38
16	I see that innovation happens by incident.	2.0667	0.91812	39
34	I prefer using easy traditional method to measure student achievement through school exams.	2.0000	1.00844	40
School		Mean	Average Standard deviation	
Talents		2.7775	0.73877	

Table 2, Shows that average of attitudes of teachers in gifted schools towards creativity was moderate and their mean was (2.77) and the standard deviation was (0.73).

Item No. twenty-nine (I think that the individuals with the creative capabilities play an important role in the development and progress of societies) has come in the first rank with mean (3.45) and standard deviation (0.87), and in the second rank, Item No. thirty (I see that the student is the center of the activity / the classroom is centered on the student) with mean (3.26) and standard deviation (0.93), while the last rank was for item No. 34 (I prefer using easy traditional method to measure student achievement through school exams) with mean (2.00) and standard deviation (1.00).

This result agrees with the study of Al-Sous [16] which indicated that the degree of teachers' strategies to deal with the gifted students at the secondary level is ranging from moderate to

very high. Mills [21] pointed out that the character of the teacher and his knowledge has an impact on teaching creative thinking. The researcher explained the existence of the items (29,30) in the first and second levels was due to the contents of these items that are understood clearly by the participants. However, the participants agreed that the item (34) was not related to the creativity but it was related to the traditional method. The previous result indicated that the attitudes of gifted schools' teachers were about average. The researcher believes that this result is due to the selection of the teachers to join gifted schools did not include criteria related to: academic qualifications, knowledge and practice of the methods of the development of creativity, and they are still affected by their previous experience in teaching of ordinary schools students. Therefore, the teachers' attitudes in the gifted schools and their methods of dealing with gifted students were the same attitudes and styles that they had with the students in the ordinary schools. Hence, the understanding of the teachers to the items of the instrument was not accurate. Therefore, their answers came less than what was expected of them as teachers of gifted students.

2- To answer the second question: What is the attitude level of ordinary school's teachers towards creative thinking?

The researcher had extracted the mean and standard deviation of the items as shown in Table No. 3.

Table 3. Mean and standard deviation of the items

Item No.	Item	Mean	Standard deviation	Rank
3	I think that launching the freedom of thought is necessary for creativity development.	2.8276	1.23029	1
38	I think that this kind of thinking can be developed and educated.	2.8103	1.03376	2
11	I tend to focus on the plans, laws and procedures.	2.8103	0.96349	3
22	I train students using active learning and practice thinking skills such as: comparison, taking notes, classification, investigation and discovery.	2.7931	0.85345	4
26	I think that the objective of school is to develop of thinking and creativity among students.	2.7759	1.10887	5
2	I prefer postponing criticizing students' ideas up to the case of generating ideas.	2.7759	0.83861	6
15	Preferring questions dealing with higher thinking skills (How? Why? What? And if?).	2.7586	1.09721	7
5	I see that the use of divergent (multifarious) and motivational questions is necessary for the development of creativity.	2.7586	1.09721	8
37	I think that developing of students self-confidence helps them to solve the problems.	2.7586	1.21843	9
1	I really appreciate the new ideas of the students.	2.7586	1.18928	10
20	I encourage students to express their views and discuss them.	2.7586	1.20395	11
25	I offer an opportunity for students to rely on themselves in learning.	2.7500	0.97701	12
17	I encourage students to consider things from different angles.	2.7500	0.91949	13
14	I urge students to participate, find alternatives and make decisions.	2.7241	1.10490	14

Table 3 Continued.....

13	I think that the promotion of outstanding creative performance is essential for creativity.	2.7069	1.24264	15
24	I give students enough time to think about the educational activities.	2.6909	1.06931	16
31	I think that the diversity of learning sources in the school environment helps in the development of thinking and creativity.	2.6552	1.27804	17
10	I believe there is a need for introducing of new methods to assess the level of students and their achievements, such as self-assessment.	2.6552	0.96521	18
33	I avoid using of restrictive thinking methods.	2.6552	0.92815	19
19	I take into consideration the diversity and differences of the students' thoughts.	2.6316	1.20463	20
21	I think there are creative children in the classroom.	2.6316	1.06287	21
9	I prefer special training programs for the development of creativity.	2.6316	0.93792	22
4	I think that the teacher should use open-ended activities.	2.6207	0.93335	23
12	I tend to focus on increasing the scientific yield.	2.6207	1.16721	24
16	I see that innovation happens by incident.	2.6034	0.95402	25
30	I see that the student is the center of the activity / the classroom is centered on the student.	2.5862	1.18521	26
7	I think that creativity can be developed within the school.	2.5862	0.91832	27
18	I encourage students to use new methodologies for solving problems.	2.5789	1.08475	28
35	I consider that the development of students ideas and linking them is essential for development of creativity.	2.5690	1.18636	29
8	I think that the basic role of the teacher in the education and development of creative thinking.	2.5517	1.17238	30
40	Focus on the personal performance of the learner in the understanding of knowledge.	2.5517	1.01173	31
39	I think that creative thinking is an effective way for the development of any society and modernizing it.	2.5172	1.15836	32
32	I discuss with students different ideas they state.	2.5172	0.99545	33
23	There are restricted educational events or that exist in the school curricula that I use.	2.5000	0.88357	34
29	I think that the individuals with the creative capabilities play an important role in the development and progress of societies.	2.5000	1.17354	35
36	I see that thinking skills are integrated in the curriculum taught to students.	2.5000	1.016376	36
27	I feel working with creative students will be tiring.	2.4828	1.01292	37
6	I diagnose the students' creative obstacles and solve them.	2.4483	0.84131	38
28	I think that creativity is genetically inherited and cannot be developed.	2.3448	1.17804	39
34	I prefer using easy traditional method to measure student achievement through school exams.	2.2414	0.92358	40

School	Mean	Average Standard deviation
Ordinary	2.6220	0.67434

Table 3, shows that mean of attitudes of teachers in ordinary schools towards creativity has shown as moderate as (2.62) and the standard deviation as (0.67).

The third item (I think that launching the freedom of thought is necessary for creativity development) has taken the first rank with mean (2.82) and standard deviation (1.23), and in the second rank was Item No. thirty eight (I think that this kind of thinking can be developed and educated), with mean (2.81) and standard deviation (0.93), while the latter arrangement was item No. thirty four (I prefer using easy traditional method to measure student achievement through school exams.) with mean (2.24) and standard deviation (0.92).

This result could be attributed to the fact that the accurate knowledge of the teachers for this type of thinking is little, since giving attention for it is current or may be few of them who have the opportunity to practice or be trained on this domain. In addition to what is known towards teacher's interest in quantity regardless quality in their educational practice in order to finish the text book on time.

3- To answer the third question: Are there significant differences ($p \leq 0.05$) in the attitudes of teachers in the gifted schools and the teachers in the ordinary school toward creative thinking due to their gender?

The researcher has used one-way ANOVA for the items and Table 4, shows the results

Table 4. One-way ANOVA for the items due to the gender variable

Source	Type some of Squares	DF	Mean Square	F	Significant
Gender	1.068	1	1.068	2.144	0.146
Error	57.766	116	0.498		
Total	919.729	118			
Corrected Total	58.834	117			

Table 4, shows that there were no statistically significant differences at the level ($p \leq 0.05$) between the attitudes of gifted and high achievers school teachers and ordinary school teachers about creative thinking attributed to gender as the value of F (2.144), which is not significant at the level ($p \leq 0.05$). This result agreed with the Mufraji study [11], and Sous [16], indicated that there are no statistically significant differences between males and females in attitudes.

This can be explained by the fact that any two teachers living in one community may still have their own traditions and concepts that affect positively or negatively in the pattern of thinking. In addition to that male and female teachers have the same educational system. The researcher attributed this to the fact that teachers are getting the same instructions provided by the Department of Education regardless the gender. In addition, this may be attributed to the fact that the teachers - regardless of gender, have similar characteristics in terms of qualifications, attending the same training courses and classes they teach, and similar levels of students, in addition to that, all teachers use the same textbooks.

- 4- To answer the fourth question: Are there significant differences ($p \leq 0.05$) in the attitudes of teachers in the gifted schools and the teachers in the ordinary school towards creative thinking due to the school type (gifted and ordinary schools)?

The researcher has used one-way ANOVA for the items and Table 5, shows the results

Table 5. One-way ANOVA for the items due to the school type variable

Source	Type some of Squares	DF	Mean Square	F	Significant
school type	0.713	1	0.713	1.424	0.235
Error	58.121	116	0.501		
Total	919.729	118			
Corrected Total	58.834	117			

Table 5. shows that there were no statistically significant differences at the level ($p \leq 0.05$) between the attitudes of teachers gifted school and teachers of ordinary school towards creative thinking due to the variable of school type (gifted and ordinary schools).

It was expected to find differences in teachers' attitudes towards creative thinking for the favor of teachers working in gifted schools, due to their experience in dealing with gifted students. But, the result shows that there are no differences in attitudes among teachers working in gifted schools and ordinary schools. The researcher has attributed that the teachers working in gifted schools did not receive proper training or guidance programs during the years of past expertise in ordinary schools, to develop positive attitudes towards creative thinking. The researcher interprets that teachers working in gifted school were working in ordinary schools, when they have been chosen to work in gifted schools without taking into consideration their qualifications and scientific experience in dealing with gifted students; in addition to lack of preparation in dealing with gifted students by joining practical courses or counseling programs during their work in gifted schools, to develop their positive attitudes towards creative thinking. School environment and school responsibilities may have the major role in the lack of modification opportunities to improve the attitudes towards the individuals of the study.

- 5- To answer the fifth question: Are there significant differences ($p \leq 0.05$) of significance in the attitudes of teachers in gifted schools and teachers in ordinary school towards creative thinking due to the teacher's specialization?

The researcher has used one-way ANOVA for the items and Table 6 shows the following results:

Table 6. One-way ANOVA for the items due to the Specialization variable

Source	Type some of Squares	DF	Mean Square	F	Significant
Specialization	0.260	1	0.260	0.474	0.515
Error	58.574	116	0.505		
Total	919.729	118			
Corrected Total	58.834	117			

Table 6, shows that there were no statistically significant differences at the level ($p \leq 0.05$) between the attitudes of the teachers in gifted and high achievers school and the teachers in the ordinary school towards creative thinking attributed to specialization field. The value of (F) has reached (0.515), which is not significant at the level ($p \leq 0.05$).

The researcher attributes the previous result due to the quality of teacher's preparation that is almost similar in its methods. Even though, the researcher has expected that there will be statistically significant differences in favor of male and female science teachers due to the requirements of these courses of the availability of the creativity. The lack of financial issue in schools is considered as one of the obstacles in developing positive attitudes in these specializations, whereas the attitudes of humanities male and female teachers descend towards creative thinking. This may attribute to the fact that the nature of these specializations tends to a theoretical domain.

- 6- To answer the sixth question: Are there significant differences ($p \leq 0.05$) in the attitudes of teachers in gifted schools and teachers in ordinary school towards creative thinking due to their experience?

The researcher has used one-way ANOVA for the item and Table 7, shows the following results:

Table 7. Mean and standard deviation of experienced teachers

Experience	standard deviation	mean
5 years old	0.69	2.49
More than 5	0.68	2.87
Total	0.70	2.70

Table 7 shows that the value of the mean of experienced teachers more than five years is (2.87) and standard deviation (0.68) while the mean of the teachers experienced less than five years amounted to (2.49) and standard deviation (0.69).

Table 8. one-way ANOVA for the items due to the Experience variable

Source	Type some of Squares	Mean Square	DF	F	Significant
Experience	4.118	4.118	1	8.730	0.004
Error	54.716	0.472	116		
Total	919.729		118		
Corrected Total	58.834		117		

Table 8, shows that there are statistically significant differences at the level of ($p \leq 0.05$) between the attitudes of the teachers in gifted school and the teachers in the ordinary school towards creative thinking, differences were also found according to the variable experience (5 years or less, more than 5 years) and attributed these differences for the benefit of people with experience more than 5 years.

This result agrees with the result of Zidane and Odeh study [25] which indicated that there are differences for the experienced teachers who have experience of (5-10), and more than 10 years compared with less than 5 years of experience.

The results of the study differ from the study of Al-Sous [16] which showed no significant differences in the impact of the experience on the level of teachers practicing of strategies dealing with outstanding students in public high school. The study Mafraji [11] showed no significant differences in the impact of the experience on the attitudes of teachers.

This could be interpreted that long educational experience for teachers either for gifted or ordinary students affects positively in teachers attitudes towards creativity. The teachers' flow experience in teaching is not exposed to counseling programs or practical courses during their experience for developing their abilities and their attitudes towards creative thinking because the educational directorates give priorities for joining training courses for teachers of long experience.

4. CONCLUSION

The teachers' attitudes in both gifted schools and ordinary schools towards creative thinking were found moderate, and against the researcher expectation. Teachers' attitudes were expected to be more positive for the teachers working in gifted schools towards creative thinking, and this is not an encouraging sign for education in gifted schools. Lassig [19] emphasized the important role of teachers and its effect in improving gifted students performance and encouraging their creativity. So, teachers' attitudes towards creative thinking have to be modified and developed by providing intensive in-service training courses and awareness programs in order to support them with ability to accept students' new ideas for improving education situations that lead to creativity.

5. RECOMMENDATIONS

In light of the findings, the researcher recommends the following:

- 1 - Attention to in-service training to the work of education and educational programs and intensive training courses for teachers on the subject of creative thinking.

The training programs and courses will be good resources of providing sufficient information to the teacher for creative thinking, which helps to provide an educational environment, encourages the development of creative abilities. Some of the important objectives of these programs include: development of creative attributes and positive attitudes towards innovation in teachers' personalities; clarifying the concept of talent and talented, as well as identifying the characteristics of gifted students, to assist in the discovery of them, informing them of different methods for taking care of gifted students, and trying not to rely on theoretical education but focusing on applied education.

- 2- Development of positive teacher's attitudes towards creative thinking.

Depending on the fact that the phenomenon of creativity can be taught and learned; encouragement for the teacher to be creative can be provided by the education authorities, by providing financial and moral incentives. In addition to the important role of providing awareness of the concept of creativity to supervisors of the educational process, teachers and parents and its importance, and to identify the factors affecting it negatively and those that support it.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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APPENDIX

Questionnaire for teachers' attitudes towards creative thinking The specialist: Experience: Gender: school name: Dear teacher, this questionnaire aims to explore teachers' attitudes towards creative thinking. Please read carefully and follow the instructions. Instruction: put the sign (×) for each item which reflect your opinion honestly.

Item No.	Item	always	often	sometimes	never
1	I really appreciate the new ideas of the students.				
2	I prefer postponing criticizing students ideas up to the case of generating ideas				
3	I think that launching the freedom of thought is necessary for creativity development.				
4	I think that the teacher should use open-ended activities				
5	I see that the use of divergent (multifarious) and motivational questions is necessary for the development of creativity				
6	I diagnose the students' creative obstacles and solve them.				
7	I think that creativity can be developed within the school.				
8	I think that the basic role of the teacher is the education and development of creative thinking.				
9	I prefer special training programs for the development of creativity.				
10	I believe there is a need for introducing of new methods to assess the level of students and their achievements, such as self-assessment.				
11	I tend to focus on the plans, laws and procedures.				
12	I tend to focus on increasing the scientific yield				
13	I think that the promotion of outstanding creative performance is essential for creativity.				
14	I urge students to participate, find alternatives and make decisions.				
15	Preferring questions dealing with higher thinking skills (How? Why? What? And if?).				
16	I see that innovation happens by incident				
17	I encourage students to consider things from different angles.				
18	I encourage students to use new methodologies for solving problems.				
19	I take into consideration the diversity and differences of the students thoughts.				
20	I encourage students to express their views and discuss them.				
21	I think there are creative children in the classroom				
22	I train students using active learning and practice thinking skills such as: comparison, taking notes, classification, investigation and				

- discovery
- 23 There are restricted educational events or that exist in the school curricula that I use.
- 24 I give students enough time to think about the educational activities.
- 25 I offer an opportunity for students to rely on themselves in learning.
- 26 I think that the objective of school is to develop of thinking and creativity among students.
- 27 I feel working with creative students will be tiring.
- 28 I think that creativity is genetically inherited and cannot be developed.
- 29 I think that the individuals with the creative capabilities play an important role in the development and progress of societies
- 30 I see that the student is the center of the activity / the classroom is centered on the student.
- 31 I think that the diversity of learning sources in the school environment helps in the development of thinking and creativity
- 32 I discuss with students different ideas they state.
- 33 I avoid using of restrictive thinking methods
- 34 I prefer using easy traditional method to measure student achievement through school exams
- 35 I consider that the development of students ideas and linking them is essential for development of creativity.
- 36 I see that thinking skills are integrated in the curriculum taught to students.
- 37 I think that developing of students self-confidence helps them to solve the problems
- 38 I think that this kind of thinking can be developed and educated.
- 39 I think that creative thinking is an effective way for the development of any society and modernizing it
- 40 Focus on the personal performance of the learner in the understanding of knowledge.
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