

The Extent of Special Education Teachers' Awareness of Thinking Patterns among Talented Students in Jordan

Dr. May Al-Raqqad¹

¹Assistant Professor, Al-Balqa Applied University, Princess Alia University College, Amman, Jordan

Abstract

The study aims at identifying the extent of special education teachers' awareness of thinking patterns among talented students in Jordan. The study sample consists of (100) teachers (male and female) who obtained special education certificates from Jordan. To achieve the objectives of the study, the researcher has developed a scale for thinking patterns for talented students. The results of the study show that the level of awareness of special education teachers of the thinking patterns among gifted students is moderate with a mean of (2.09) and a standard deviation of (0.209). The results also indicate that there are no statistically significant differences at the level of ($\alpha=0.05$) due to gender variable where "K" is (1.892) with statistical significance (0.063). Moreover, the results show that there are no statistically significant differences due to years of experiences on the awareness of special education teachers with the thinking patterns of talented students in Jordan where "F" reaches (0.392) with statistical significance. In light of the results of the study, the study recommends designing programs to raise the awareness of the special education teachers of thinking patterns of talented students and refining them to serve talented students. Prepare pre/service and in/service programs for gifted students in terms of behavioral characteristics and patterns of thinking to learn how to recommend the student and professor of students' abilities correctly. Also, the study recommends raising the awareness of responsible authorities in the Ministry of Education and the Supreme Council for the disabled that this category needs support through knowing their thinking patterns. In addition, providing the necessary support services and increasing the attention on the gifted group, not only in the gifted schools, but also in the regular schools in order to have the opportunity in the resource room to develop their talents according to their patterns of thinking.

Key words: Awareness - Thinking patterns - Talented

Introduction

Advanced societies are characterized by the belief that talented people are a wealth and a human resource to be nurtured and cared for, in preparation for investing in various scientific, technological and economic fields.

The most important signs and indicators that discover the existence of talent in the individual are the characteristics of personality and behavioral characteristics, which appear in early childhood from the life of the individual, and change the pattern of thinking of the essential things, but the key to the personality of the talented that distinguishes him from others.

Thinking style or thinking pattern is the preferred method that an individual uses, or employs, his abilities and intelligence to do tasks and solve problems (Sternberg, 1997).

The researchers agree that gifted education requires the full awareness of the teachers of special education because it is only a form of special education, so that we can meet the needs of talented students as a special category and the educational programs designed for them must be different from the educational programs of ordinary students and teaching methods and strategies must be compatible with personality traits and gifted thinking style.

Therefore, the teacher's awareness of the nature of this particular community and this particular group and its needs and patterns of thinking, and knowledge of the issues related to curricula and appropriate teaching methods are essential to the teacher to be successful in teaching this category (Jarwan 2013).

Hence, we have to reconsider the process of preparing the teacher in terms of selection and education and dealing with talented students. The reality that the teacher now appoints is very different from what it was in the past. The rapid change at present and advanced technology make it impossible for the teacher to limit himself to a limited amount of Knowledge, and it is not easy for him to adhere to one way or a single method of teaching, especially that education and teaching is based on the individual differences of each individual.

The teacher must have the ability to innovate, develop and be able to use what is new in the field of education, and keep abreast of technology. These abilities and competencies should be developed in teacher training institutions (Al-A'ed, 2005).

And because the teacher capable and equipped with competencies and full awareness of the characteristics and patterns of thinking of the student who deals with it can succeed to put educational plans and programs translated in such a way that ensure the success and timely success of the individual's capabilities and development and use as a wealth of society.

Therefore, the teacher of special education must be sufficiently aware of mental and linguistic abilities, interests, patterns of education, thinking patterns, motivational stimuli, personality traits, mental health and self-concept of each category of special education, especially the gifted group (Samadouni, 2009).

Study problem and its questions:

The Study Problem

In view of the importance of teachers, especially teachers of special education and their role in the success of the educational process, and to start from the individual's abilities and development of talent, which is achieved through the knowledge of teachers of education special patterns and ways of thinking of gifted students, studies and research indicated the lack of awareness of teachers of education in thinking patterns of the talented or even understanding behavioral, social and academic patterns.

Hence, despite the graduation of many teachers of special education from recognized universities and colleges, there is a clear and concrete perception on the ground and in the field of special education at the level of centers or sources in schools of interest to the talented or even know enough needs and requirements or even how to diagnose them.

Which made the research in this area important for follow-up and research in other areas and the most important diagnosis is the lack of special education teachers of differentiation between outstanding and talented and creative and genius students and lack of distinction between each of these classifications.

Hence the questions about the lack of interest in this category and the lack of talent, as a result, we do not benefit from the category of talented and not distinguish them from others and blur them to become a normal category or even a frustrating value may evaporate in the behavioral turmoil as a result of frustration and obliterate talent.

The problem of the study is to know the level of awareness of special education teachers about the thinking patterns of talented students in Jordan. Because the lack of awareness of the thinking patterns of this group is one of the fundamental reasons for the loss of human wealth that could be a little aware of them. - Improve human performance. Given the contribution of gifted people to the advancement of societies, many dilemmas have arisen - there is a constant need for constant awareness and revelation of the characteristics that characterize them through awareness of their thinking, because the awareness of the modes of thinking of talented people is the basis for dealing with them and to know their needs and benefit from them in society.

Study Questions

The present study came to answer the following questions:

1. What is the level of special education teachers' awareness of the thinking patterns of gifted students in Jordan?
2. Are there statistical differences at the level of significance ($\alpha= 0.05$) in the special education teachers' awareness of the thinking patterns of gifted students in Jordan attributed to the gender variable?
3. Are there statistically significant differences at the level of significance ($\alpha= 0.05$) in the level of special education teachers' awareness of the thinking patterns of talented students in Jordan due to the years of experience variable?

The importance of the study

Theoretical Importance: Through the new information provided by the study to the human knowledge about the awareness of special education teachers about the thinking patterns of talented students in Jordan.

Practical importance: the practical importance of the results of the study that it highlights the applied benefits in the field of education and psychological and the applied importance are represented in the following:

- To direct the attention of special education teachers to the thinking patterns of talented students.
- Developing a measure of the thinking patterns of talented students.
- Provide training programs aimed at teaching specialized teachers in the thinking patterns of gifted students in schools.
- The efforts of the students of universities and colleges reveal the theoretical material that is taught in the universities and colleges specialized in special education for all the special education teacher needs to know the category of the gifted and their characteristics.

- Directing special education workers and those who prepare training programs before, during and after the service to raise awareness among special education teachers.
- and thus to act on gifted students and their patterns of thinking and characteristics and provide appropriate services for them and benefit from them on the ground through long-term programs.

Objectives of the study:

The aim of the study was to find out the extent to which teachers of special education were aware of the thinking patterns of gifted students in Jordan, it aims particularly to:

1. To identify the level of awareness of special education teachers of thinking patterns among gifted students in Jordan.
2. To identify the difference in the level of awareness of special education teachers about the thinking patterns of gifted students due to gender in Jordan.
3. Identifying the difference in the level of awareness of the special education teachers regarding the thinking patterns of gifted students according to the different years of experience in Jordan.

Conceptual and Procedural Definitions of Study Terms:

Awareness: The total sum of mental processes and activities in which the individual participates in understanding the real world and his personal needs (Neem, 2004).

Procedural definition: The degree that the teacher obtains the scale used in the study.

Special education teachers: All teachers who have a certificate of special education and who work in the field of education for people with disabilities and gifted in Jordan.

Talented: They are those who are able to develop a combination of human attributes (high abilities, motivation and creativity) and employ them for the benefit of humanity (Renzulli, 1986).

Procedural: The grades obtained by the student on the talent scale at the gifted school.

Thinking patterns: It is the preferred way of thinking when doing business. It is not ability, but rather the ability to use, and falls between personality and abilities (Sernberg, 2003, p.3).

Procedural definition: The scores of gifted students on the scale of thinking patterns.

The limitations of the study

Human limitations: The study was limited to a sample of teachers who obtained the certificate of special education in schools, centers and institutions affiliated to the Ministry of Education in Jordan

Spatial limitations: The study was implemented in the schools, centers and institutions where the teachers of the Ministry of Education / Capital Amman are existed.

Time Limitations: The study was implemented in the semester (2015-2016).

Study determinants:

- The results of this study are determined by the schematic characteristics the validity and reliability of the study instrument.
- The results of the study can be distributed to communities similar to this study community.
- The generalization of the results of this study depends on the degree of validity of the examination of the sample of the study on the tool

Previous Studies

Al-Husseini (2016) conducted a study aimed at identifying the awareness of special education teachers about the characteristics of gifted students with learning disabilities in Kuwait. The sample consisted of (168) male and female teachers who obtained the special education certificate in the State of Kuwait. The results showed that the level of awareness of special education teachers about the characteristics of talented students with learning difficulties was medium, and there were no statistically significant differences in gender or years of experience variables.

Al-Maliki (2016) conducted a study aimed at detecting behavioral traits and their relation to the thinking methods of a gifted group in Jordan and the investigating different behavioral traits and thinking styles of gifted students according to gender. The study sample consisted of (155) gifted students from the King Abdullah II School of Excellence (52) male students (48) female students in the King Abdullah II School of Excellence is in the beauty of judicial thinking and then liberal and then legislative and no difference in the behavioral characteristics and thinking methods of gifted people attributed to the gender variable.

Attiat (2013) study aimed at investigating the methods of thinking in the light of Sternberg model in a student of Balqa Applied University and to detect the difference in the degrees of thinking methods according to

gender variable and the cumulative rate and to achieve the goal, a random sample of undergraduate students was chosen consisting of (800) students applied to them the list of Sternberg and thinking style, the results revealed a high degree of preference for all methods of thinking and most of them are (legislative, hierarchical, external / then liberal, then monolithic) and the least favored (conservative, domestic, internal, and chaotic) as the results showed that there are statistically significant differences in degrees of students preferred thinking styles (domestic - rebellious, chaotic, and external) in favor of females.

Bakhit & Al-Hamad (2013) conducted a study aimed at identifying the degree of knowledge of the difficulties of education and the terms of giftedness in the category of gifted. The sample consisted of (137) teachers and (122) of them were learning difficulties and (15) gifted teachers in the public schools for girls in Riyadh city. The main results of the research Lack of knowledge of the concept, definition and terminology and the characteristics of gifted and the existence of statistical significance differences in the degree of total resolution attributed to the different years of experience.

Nofel & Abu Awwad (2012) conducted a study aimed at reversing popular thinking methods in the light of the theory of mental self-sufficiency among Jordanian university students. The researchers used the list of Strepreb and finally its long image and then applied it to (1171) male and female students in Jordanian universities. The results showed a weak correlation between the methods of thinking and the cumulative rate of the student, The results of the study showed that there are biophysical differences in the methods of thinking (judicial, mono, external) attributed to the gender of the student and for the benefit of males and the existence of differences in the royal style and for the benefit of females.

Smoke (2009) conducted a study aimed at revealing the extent of teachers' knowledge of special terms, characteristics of gifted students, and methods of treatment by teachers. The researcher used the quantitative approach through the questionnaire that was distributed to (200) teachers of both sexes and then the responses were collected. Results indicated that (60%) of teachers with experience in terminology (25%) have experience in dealing with this category and there are statistical significance differences due to gender.

Method and procedures:

Study Method

The quantitative descriptive approach was used to study the case.

Sample of the Study

The members of the study consisted of a sample of teachers who obtained the certificate of special education in the capital Amman. and "Uhod" area where the sample consisted of (28) female special education teachers and (42) male special education teachers, where the total sample (155) male and female special education teachers, the sample was randomly selected of those who have a certificate of special education.

The Study Tool

The thinking patterns of the gifted were developed based on the Stenberg Wagoner's Thinking Style Inventory.

The researcher developed a list of patterns of thinking (Sternber & Wager) for the purposes of the current study to know the extent of knowledge of special education teachers of the thinking patterns of the gifted as follows:

- To test some domains through the patterns of thinking that the results of the studies proved the possession of gifted students of it such as the studies of Nofal and Abu Awad (2012) Attiyat (2013) and (1995) and Grigorent & Sternberg (1997).
- The selection of some items and the deletion of some items and the addition of some items and the conversion of items from the positive direction to the positive and negative direction, and re-print the items in full, and the initial form consisted of the (31) positive and negative items, distributed over (5) domains (legislative, judicial, hierarchical, internal and rebellious) So that each field includes the preferred aspects of the thinking patterns of the gifted, and the items were formulated in a clear and limited way and cannot be answered by more than one meaning and are answered in an objective manner saves time and effort.

Validity of the scale

The logical validity was verified by introducing the scale into (9) judges of the doctoral degree in the field of talent and creativity, to determine the belonging of the items to the measured domain and the accuracy of language where the accepted items were accepted by (80%) of the arbitrators or more and the items were amended as recommended.

Reliability of the scale

Reliability of the scale was calculated by test/retest and the time interval between the first and second applications is a month, it was applied on (30) teachers of special education and Pearson coefficient was used between their estimates which reached (0.92).

The reliability coefficient was also calculated using internal consistency and according to the equation (Kronbach alpha), which reached (0.89) and this value was characterized by its appropriateness for the purposes of the study.

The design of the scale:

The Likert triangular ladder was adopted to design the study instruments by giving each of its items one of the three degrees (always - sometimes - rarely) or digitally (1-2-3) respectively. The following measure has been adopted for the purpose of analyzing the results:

From 1.00 - 1.60 Low

From 1.67 to 2.33 Medium

From 2.34 - 3.00 High

Procedures of the Study

The researcher conducted a series of procedures to achieve the objectives of the study and the most important of these procedures are the following:

- Identify the population and sample of the study.
- Preparing and developing the study tools and procedures of validity and reliability.
- Distribute the study tool to the sample, and then compile the questionnaire.
- Conduct statistical analysis and reach results.

Statistical processing

- Insert the data in the (SPSS) program for statistical analysis and calculate the arithmetical averages and the standard deviations of the grades of the study subjects on the scale of the study in the first, second and third question.
- To examine the awareness of the special education teachers about the gifted students' thinking patterns, and then to extract the arithmetical averages and the standard deviations.
- To examine the extent to which educational teachers were aware of the gifted thinking patterns due to the gender variable, the arithmetical averages and standard deviations were selected and t-test was used to show the effect of gender.
- To examine the extent to which teachers of education were aware of the modes of thinking of the gifted according to the years of experience variable, the arithmetical averages and the standard deviations were calculated.

Results of the Study

The aim of this study was to identify the awareness of special education teachers about the thinking patterns of talented students in Jordan, specifically aimed at achieving the following objectives:

4. What is the level of special education teachers' awareness of the thinking patterns of gifted students in Jordan?
5. Are there statistical differences at the level of significance ($\alpha= 0.05$) in the special education teachers' awareness of the thinking patterns of gifted students in Jordan attributed to the gender variable?
6. Are there statistically significant differences at the level of significance ($\alpha= 0.05$) in the level of special education teachers' awareness of the thinking patterns of talented students in Jordan due to the years of experience variable?

To answer these questions, the researcher applied the study tool which is a questionnaire to the teachers and special education teachers, then monitoring the data and processing them statistically using the program "SPSS" and the following is a presentation of those results.

Results of the first question:

What is the level of special education teachers' awareness of the thinking patterns of gifted students in Jordan?

In order to answer this question, means and standard deviations of the level of special education teachers' awareness of thinking patterns of gifted students in Jordan have been extracted and the following table shows this.

Table (1): means and standard deviations of the level of special education teachers' awareness of thinking patterns of gifted students in Jordan

N	Items	Always	Sometimes	Rarely
1	I apply my own thoughts to problem solving	2.42	0.679	High
2	I evaluate the work of others	2.39	0.609	High
3	I consult others when I perform the task	2.30	0.634	Moderate
4	I connects between the subtasks and the overall goal of a task	2.30	0.634	Moderate
5	I work alone when performing a task	2.77	0.715	Moderate
6	What others do outside my criticism	2.22	0.650	Moderate
7	I challenge the laws to make a change	2.35	0.649	High
8	Different views diverge from my comparison	2.18	0.703	Moderate
9	I watch how successful my thoughts are	2.11	0.687	Moderate
10	I finish the project that I do before I ever go elsewhere	2.12	0.646	Moderate
11	I develop strategies to make change without resistance	2.17	0.663	Moderate
12	I depend on others' estimates of position to make a decision	2.10	0.706	Moderate
13	I compare between different ways to solve problems	2.09	0.691	Moderate
14	I am seeking renewal periodically	2.05	0.682	Moderate
15	I set Prioritizes for the task after doing it	2.08	0.629	Moderate
16	I Use traditional methods of problem solving	2.11	0.675	Moderate
17	I apply my own thoughts without relying on others	2.20	0.705	Moderate
18	I ask the question why	2.2	0.665	Moderate
19	I tend to issues that have preconceived solutions	1.99	0.661	Moderate
20	I seek self-satisfaction	1.90	0.621	Moderate
21	I follow routine ways in task performance	1.97	0.696	Moderate
22	I defend my opinions with courage	1.96	0.695	Moderate
23	I Randomize problems	1.90	0.698	Moderate
24	I make my decisions based on multiple alternatives	1.89	0.678	Moderate
25	The whole project was completed on the basis of others	1.86	0.695	Moderate
26	I do things in traditional ways carried out by one before me	1.85	0.694	Moderate
27	I arrange tasks according to their importance	1.80	0.736	Moderate
28	I solve old problems in traditional ways	1.81	0.692	Moderate
29	I use the ideas of others	1.61	0.654	Low
30	I seek to choose the tasks that suit my abilities	1.60	0.612	Low
31	I understand the work after starting it.	2.09	0.691	Moderate

The table shows that the mean averages ranged between (1.60) and (2.42) where the level of awareness as a whole was medium with a mean of (2.09) and a standard deviation of (0.209). The item that states (I apply my own thoughts in solving the problems) came in the first rank with the highest mean of (2.42) and a standard deviation of (0.679). The two items, which refer to (consult others) and (evaluate the work of others) came in second place respectively, with an average of (2.30) and a standard deviation of (0.634).

The two items that state (using the ideas of others) and (seeks to select tasks commensurate with his abilities) came with a low mean (1.60) and a standard deviation (0.612).

The other items of the questionnaire were all averaged according to the mean and the standard deviation of (1.60 - 2.40).

Results of the second question:

Are there statistical differences at the level of significance ($\alpha= 0.05$) in the special education teachers' awareness of the thinking patterns of gifted students in Jordan attributed to the gender variable?

In order to answer this question, the mean and standard deviations of the level of special education teachers' awareness of the thinking patterns of gifted students in Jordan were calculated according to the gender variable and to show the statistical differences between the arithmetic means t-test was used and the table below illustrates this:

Table (2): Means, Standard Deviations, t-test of gender impact on teachers' awareness of the thinking patterns of talented students in Jordan

The extent of awareness	Gender	N	Mean	Standard deviation	t- value	Df	Sig
	Male	42	2.13	202	1.881	160	0.062
	Female	58	2.07				

In the previous table, there were no statistically significant differences ($\alpha= 0.05$) due to gender effect, with the "t" value was (1.881) with a statistical significance (6.062).

Results of the third question:

Are there statistically significant differences at the level of significance ($\alpha= 0.05$) in the level of special education teachers' awareness of the thinking patterns of talented students in Jordan due to the years of experience variable?

To answer this question, the arithmetic averages and standard deviations of the level of awareness of the special education teachers of the thinking patterns of gifted students in Jordan have been extracted. This leads to the years of experience and the table below illustrates this:

Table (3): means and standard deviations of special education teachers' awareness on the thinking patterns of talented students in Jordan according to the years of experience variable

Categories	N	Mean	Standard deviation
3 years and less	28	2.10	0.178
From 3-6 years	18	2.09	0.199
More than 6 years	22	2.11	0.213
More than 9 years	32	2.07	0.225
Total	100	2.09	0.207

The table shows an apparent discrepancy in the arithmetical averages and standard deviations of the special education teachers' awareness of the thinking patterns of the talented students in Jordan due to the difference in the years of experience and to show the statistical significance differences between the means ONE-WAY ANOVA was used as shown in the following table:

Table (4): ONE-WAY ANOVA to show the statistical significance differences between the means

The extent of awareness	Source	Total scores	Df	Mean of scores	"F" Value	Sig
	Between groups	0.051	3	0.017	0.391	0.759
	Within groups	7.092	164	0.043		
	Total	7.143	167			

In the previous table, there were no differences (0.05) for the effect of the years of experience, with a value of "F" (0.391) with a statistical significance (0.759).

Recommendations:

1. Design programs to raise the special education teachers' awareness of the thinking patterns of talented students and make it to serve the student.

2. To sensitize the responsible authorities in the Ministry of Education to the importance of special education specialization and this makes the knowledge of the categories and dependability of dealing with them, especially the talented.
3. Continuous awareness in all fields of the importance of revealing talented people to benefit from them to develop society.
4. To develop special programs for gifted students in cooperation with the Ministry of Education.
5. Provide pre-and post-service and after-service training programs for special education teachers.
6. Initiate a high diploma for the teachers of special education to make for the talented a specialization of talent and creativity to highlight the teacher of special education aware of their characteristics and patterns of thinking to deal with them correctly.
7. Add modules in universities to raise awareness of this category and its importance.

References

- Al-Ahmad, Kh. (2005) Teacher formation from Preparation to Training, University Book House, Al Ain – UAE
- Al-Hassani, F. (2016) the extent of awareness of special education teachers on the characteristics of gifted students in Kuwait, Unpublished Master thesis, Jordan
- Al-Kajabi, F. (2007) The Gifted and Talented: Strategies Applied - Amman, Jordan, Dar Al Falah for Publishing and Distribution.
- Al-Maliki, M. (2016) Behavioral Attitudes and their Relation to Thinking Methods on a sample of the talented in Jordan, Master Thesis - Jordan – Amman
- Al-Samadouni, A. (2009) Education of gifted and talented Amman-Dar Al-Fikr
- Amad, A. (2015) Thinking Skills: Contemporary Educational Vision United Arab Emirates: University Book House.
- Attiaat, M. (2013) Patterns of thinking in the light of the Sternberg model in the students of Balqa Applied University and its relation to some variables, Journal od Dirasat: Educational Sciences.
- Bakhit, S. & Al-Hamad, T. (2013) recognition of the degree of knowledge of the teachers of learning difficulties and the teachers of gifted in the category of talented students with learning difficulties, the Arab Campaign for the development of excellence Vol.4, No. 7.
- Husseini, A. (2009) The Effectiveness of an Intercultural Skills Program to Improve Critical Thinking Skills and Innovative Thinking of Gifted Students in the Second Cycle of Basic Education in the Light of Preferred Thinking Methods, unpublished doctoral dissertation, Kafr El-Sheikh University, Egypt.
- Jarwan, F. (2013) Reasons for Detecting Talents, Amman, Jordan, Dar Al Fikr for Printing and Publishing
- Neem, T. (2004) Sociology of knowledge, study of the statement of consciousness and ideology, Egypt, Dar al-Maarif al-Jami'iyah
- Nofal, M. & Abu Awwad, F. (2012) Common Thinking Methods in the Light of the Self- Mentality Government Theory among Jordanian University Students, Al-Najah University Journal of Humanities.
- Qatami, Y. (2007) Thirty Mental habits, Amman, Jordan: DeBono Center for the Teaching of Thinking.
- Renzulli, j. (1986) What Make Crudeness reexamining a definition new York : Factors on file. inc . Delta Kappa Press
- Saadeh, J. (2014) Teaching Thinking Skills with Applied Application Categories, Amman, Jordan, Dar Al Shorouk Publishing.
- Shalaby, R. (2002) profiles of thinking methods for students of academic disciplines from the Egyptian local university for in kind studies.
- Smoke .T. (2009) Teachers Perceptions on the Student who is Gifted and has Learning Disabilities Master of Science in Education). California: University of California USA.
- Sternberg .R. (1997): Thinking Style New York :Cambridge University Press.
- Sternberg R. & Grigorenko E. (1997) Style of Thinking Abilities and Academic Performance Exceptional Children 63.295.3
- Sternberg R. (2003) Thinking Style Repented Edition Kingdom. The Press Syndicate of the University of Cambridge
- Zhang l. (2004) Revisiting the predictive power of Thinking Style of Academic Performance the Journal of Psychology 138 (4). 351 – 370)