

DIFFERENCE BETWEEN MALE AND FEMALE GIFTED STUDENTS LEVEL IN PROBLEM-SOLVING RELATED TO SOCIAL PROBLEMS AMONG GIFTED STUDENTS IN SAUDI ARABIA

Alalyani Salem Obaid

School of Educational Studies, Universiti Sains Malaysia, Malaysia

Received: 24 Jun 2018

Accepted: 09 Aug 2018

Published: 14 Aug 2018

ABSTRACT

This study examined the difference between male and female gifted students level in problem-solving related to social problems among gifted students in Saudi Arabia. The research examines the difference between male and female gifted students level in problem-solving related to social problems among gifted students in Saudi Arabia. The discussion in the study is based on the theoretical framework of the Abraham Tennenbaum's Theory. This theory is appropriate for the study because it allows the reader to understand the difference between male and female gifted students level in problem-solving related to social problems. The study respondents consist of 480 gifted students from the province of Jeddah. Forty students were taken from each class; first intermediate class, second intermediate class and third intermediate class from the province of Jeddah. Similarly, forty students were taken from each class; first secondary class, second secondary class and third secondary class from the province of Jeddah. Moreover, 50% (240) of the sample consist of male gifted students and same number likewise 50% (240) of the sample consisted of female gifted students. The questionnaire was the main instruments used in collecting data from the selected gifted students which generated the quantitative data. Different statistical analyses were used in analyzing the collected data. The outcome revealed that there was no significant difference between male and female gifted students regarding solving social problems in Saudi Arabia. The result proved that gender differences do not affect the problem-solving skills related to social problems among gifted student in Saudi Arabia. Therefore, students' attitude towards solving social problems was not influenced by gender. The suggestion and recommendations based on the study findings would benefit the gifted student's canters, educational ministry, international and non-governmental organizations in the effort to improve the study learning conditions of gifted students in Saudi Arabia.

KEYWORDS: *Gifted Student, Problem Solving, Social Problem*

INTRODUCTION

It is well known that gifted students generally differ from the norm with respect to precocity and complexity (Alamer, 2014). Therefore, many researchers are of the opinion that, gifted students needs learning experience that tally with their talent which relevant to findings solutions to societal issues and social problems. Gifted students ought to be taught in a way that matches their intellectual level. Providing enabling environment for the gifted such as curricular that satisfy their talents alone would not allow them to maximize their talent without fully qualified teachers.

Gifted student requires special educational set up entirely different regular educational services in traditional school settings (Al-Shehri, et al, 2011). Special educational program is deemed necessary for the gifted students to meet up with their needs and potentials for better problem solving (Jarwan, 2008). Several countries in recent times show interest in developing gifted students education because of its ample benefit in a country's development, scientific and technological progress (Al-Zoubi, Rahman, & Sultan 2015).

Background to the study

This study examined the difference between male and female gifted students level in problem-solving related to social problems among gifted and talented students in Saudi Arabia. The gifted students care centers were established and shouldered with the responsibility of monitoring the educational, social and psychological affairs of the gifted students. Interestingly, today in Saudi Arabia gifted students' programs targeted both male and female gifted and talented students (Aljughaiman, & Grigorenko, 2013). By the year 2007, about 66,000 male and female students were identified as gifted (Al Qarni, 2010). At the moment there is 31 carecentre for boys and 20 for girls (Ministry of Education Saudi Arabia, 2016).

Gifted Students in Saudi Arabia are not isolated from facing problems faced by other gifted students across the globe, yet there are still insufficient studies on the issues of gifted students in Saudi Arabia (Alamer, 2010; Al Garni, 2012). In a nutshell, the kingdom of Saudi Arabia is witnessing new yet alarming attention to gifted students educational programs, (Al-Shehri, et al, 2011), this includes the establishment of gifted students centers.

Yet research investigating the role of metacognitive skills in solving a social problem is still limited, especially among children of school age and little is known about gifted students (Aura et. al., 2011). Based on the available existing literature, prior studies on understanding and application of metacognition mostly focused on classroom system (Everson and amp; Tobias, 1998; schraw and amp; dennison, 1994; Sperling, Howard, Miller, & Murphy, 2002). Classification of problem-solving within the methods of cognitive amendment includes the development of problem-solving thinking skills by suitable developing to deal with the problems and find solutions in the field to face the general strategies. Therefore it describes the style of problem-solving in the cognitive behavior since developing the general methods in dealing with problems instead of focusing on the specific behaviors is preferred (Mauro, 2005).

Problem Statement

Solving social problem is one of the major issues affecting gifted students in Saudi Arabia. This along other challenges among the gifted students has been a concern to stakeholders and policymakers in the Saudi Arabian educational sector. In fact ample studies were done towards solving issues related to gifted students in Saudi Arabia, up till now a lot of research needs to be done (Al-Nafea, Alkatay, and Aleslim (1992), ; Al Atari, (2000), ; Al- Thabaity, (2004), ; Al-Ghamdi, (2007), ; Al Qarni, (2010).

The core academic achievement of the Saudi gifted students has been an issue of concern to the educational ministry, policy makers, and stakeholders and. Despite various measures put in place to improve the academic performance, yet the goal has not yet been realized as posited by Alamer (2014). On daily basis, the number of identified gifted students keeps on increasing in the Saudi Arabian kingdom, and there is strong fear that the present foundations will not take care of the increasing number of the gifted students (Bondagijy, 2000). Also, a report by the ministry of education

Saudi Arabia revealed that, the number of gifted students covered by the gifted centers is much less than the actual number of the gifted in the kingdom (SOME, 2007). In this case, the ability of the gifted students to develop and utilize metacognitive thinking skills towards solving social problems is obviously deprived. Esteki & Moinmehr, 2012 stated that problem-solving among gifted students becomes harder with the high meta cognitive state without appropriate cognitive abilities, and this cause students to face unpromising social problems such as isolation.

RESEARCH OBJECTIVES

The purpose of this study is:

To examine the difference between male and female gifted students level in problem-solving related to social problems among gifted students in Saudi Arabia.

RESEARCH QUESTIONS

The study will be guided by the following research questions:

Is there any difference between male and female gifted students level of problem-solving related to social problems among gifted students in Saudi Arabia?

RESEARCH HYPOTHESIS

H₀₁. There is no difference between male and female gifted students in problem-solving related to social problems in Saudi Arabia.

LITERATURE REVIEW

This study presents a review of relevant literature related to the current research. Relevant findings from previous studies are discussed to create the basis for the possible outcomes of the current study. The literature review aims to examine the difference between male and female gifted students level in problem-solving related to social problems among gifted students in Saudi Arabia.

PROBLEM-SOLVING

This entails the systematic process of identifying and solving a problem using appropriate skills (Landry, Smith, & Swank, 2006). Agran, Blanchard, Wehmeyer and Hughes (2002) posited that, problem-solving is the methodological means through which people realize what they do not know prior to the ongoing process. It is the process of resolving issues by making the hypothesis, evaluating and testing predictions to arrive at a solution. Zelazo, Carter, Reznick and Frye (1997), presented three basic actions that are necessary for problem-solving, these includes; gating information, creating different knowledge and making the solutions. It has been advocated that, problem-solving should be as obligatory part of schools' curriculum, which will ensure that students are taking the responsibility of their own learning and can take own or personal action to provide solutions to their problems, deliberate choices, resolve conflicts and concentrate on various thinking skills as the most essential component of

Table 1: Five-Stage Model of Problem Solving

Technique	Sub-technique	Action
Understand the problem	Perceive the situation	Students understand the nature and related goals of the problem. They frame a problem in their own words.
Describe any barriers	Understand the hurdles	Students should be aware of any constraints or barriers, which may create hurdles or prevent them from achieving their goal. Briefly speaking, it is very important for students to know about the things that may create problem? Therefore, students should be highly encouraged and motivated at this stage.
Identify various solutions	Make different assumption	After defining problem and understanding the nature and parameters of a problem, students will need to find or select one or more appropriate strategies to resolve the problem. Students should also be aware of strategies they have to resolve the problem. They should also keep in mind that no single strategy will be sufficient to resolve all problems. Some of the problem-solving possibilities are stated here.
	Create visual images	It is useful to create ‘mind pictures’ of a problem and its potential solutions prior to working on the solution of a problem. Mental imaging helps the problem-solvers to design different dimensions of a problem and ‘realize’ it clearly.
	Guesstimate	Some opportunities for trial-and-error approaches to problem-solving should be given to students so that they engage themselves. Basically, it is not a singular approach to solve problems but rather an attempt to collect some preliminary data.
	Create a table	Designing tables in order to arrange data and useful information is beneficial for students to understand. They may easily comprehend the data in groups and get better understanding to organize the most relevant information regarding a problem.
	Use manipulative	Students can organize elements of a problem into recognizable and visually satisfying components and develop patterns with the help of moving objects around on a table or desk.
	Work backward	It is very helpful for students to work forward and work backward as well for finding better solutions of the problem.
	Look for a pattern	Looking at some systematic, numerical, visual or behavioural patterns is an important problem-solving strategy.
	Create a systematic list	It is also beneficial for students to create a systematic list consisting of patterns, regularities or similarities between problem elements.
Tryout a solution	Workout on an idea	After taking multiple strategies for keeping accurate and up-to-date records of their proceedings, thoughts and procedures, data collected and predictions made, students try to work through a selected strategy or combination of strategies. The strategies can be modified in case they are not yielding appropriate results.
Evaluate the results	Assess the result	After trying out the solution of the problem, multiple opportunities are used to assess students’ problem-solving skills. Therefore, the teachers should evaluate their performance rather than they assess themselves since the process of self-assessment is neither easy nor reliable.

Source: Woods’ (2000) five-stage model of problem solving

The curriculum. Problem-solving ability help students to discover different opportunities, also to apply their newly learned knowledge in the most meaningful actual activities and assist students in working higher levels of thinking

Fensel and Motta (2001), identified some basic techniques which assist students to understand the nature of the problem encountered at a particular time. These techniques involve making a comprehensive list of interrelated significant facts and given information, reaffirm the problem and design the relevant conditions. Moreover, the prepared the information, manipulated the information and outlining the problem for a potential solution. Similarly, Woods (2000),

presented a five-stage model of problem-solving that might help students to understand problems and find appropriate solutions as stated in Table 1 below.

In connection with the strategies of problem solving, Swanson and Sachse-Lee (2001), suggested a strategy for the problem solving that is entitled 'thinking cycle' and it consists of the following steps:

- Perceiving or sensing of the problem's existence.
- Specifying the problem clearly and identifying the causes.
- Determining the problem-solving requirements or support in terms of time and money.
- Developing a plan to solve the problem.
- Implementing the plan.
- Following up the implementation process regularly and consistently.
- Reviewing and modifying the plan according to the feedback during implementation
- Evaluating the problem.

On the other hand, Sriraman (2003), specifies the problem-solving skills as follows:

- Express the problem's sense and nature clearly.
- Determine the problem dimensions and formulate its magnitude succinctly.
- Develop different alternatives and select the most appropriate alternative that is justifiable and supportive to solve the problem.
- Apply the proposed solution and conduct an experiment on the specific problem.
- Evaluate the solution to make sure of its effectiveness and feasibility.
- Benefit advantage of the experience gained to solve other problems with transferring the learning effects.

Therefore, in view of the above discussion, it can be concluded that the problem-solving skills include a number of sub-skills as follows:

- Specify the problem and identify it to make sure whether it is formulated and specified clearly.
- Analyze and formulate the problem: it is the problem solver's activity to analyze and split the problem into basic components.
- Collect data: it is also the problem solver's activity of collecting the information that is related to the problem and its parts.
- Formulate some applicable and doable solutions: it is an activity of providing the initial proposed solution to solve problems.

- Evaluate the solution and choose the best one: it helps to examine the proposed solution and choose the best one for the problem
- Evaluate the effectiveness of the proposed solution: it supports to assess and ensure the efficiency of the quality of the problem.

SOCIAL PROBLEMS

For the fact that gifted students are known and characterized as super intelligent sets of human, but at the same time, they are faced with socially problems (Neihart et al., 2002). Most of the social problems faced by gifted students are directly linked with the high level of expectation in them from their parents and the outside community Bakar &Ishak (2014). Some other researchers opined that, the gifted students themselves are naturally overzealous to excel academically and attain certain educational determined objectives. In the event of failure or when gifted students could not meet up with their academic target, they tend to become frustrated (Becker and Luthar, 2002; and Robinson, 2004).

DIMENSIONS OF SOCIAL PROBLEM-SOLVING

Given the human social environmental logic, the raised issues for humans significantly have social roots and the human should utilize his own and others' abilities in dealing with simple and complex problems which are facing every day. In essence, when skills for problem-solving are applied to find solutions to personal and social problems, these skills are referred to as social problem-solving style. The steps involved in solving social problems remained the same which are used only in interpersonal and social relationships (Dalberg et al, 2008). A look at the evolution of human social interactions indicates that the emergence and expansion of human capabilities in social problem solving depend on some personal and social abilities; meanwhile, the way of mental problem representation is significantly important; in other words, in the process of human development, he forms a variety of understanding and analysing the existing problem situations in life and thus he can identify those situations. The continuous coping styles for stressful situations lead to the relatively constant approaches in the individual cognitive system and these approaches structurally determine the personal and interpersonal problem-solving ways and are called the cognitive style approaches. The cognitive style refers to a constant feature and approach in organizing and processing the information. The social problem-solving ability is not a single construct, but a multidimensional construct which consists of different abilities (D'Zurilla and Nezu, 2002). Typically, the model assumed that the ability to solve social problems has two distinct independent variables

In the basic model, it is assumed that the social problem-solving ability consists of two independent components, namely, the problem orientation and problem-solving skills called later as the problem-solving style. The problem orientation is a set of cognitive psychology- emotional schemas which reflect the individual's beliefs and feeling about the life issues. Problem-solving requires the goal-oriented strategies by which a person defines the problem, provides a solution, implements the problem-solving strategies and monitors them. According to the main form of current model for social problem solving (D'Zurilla and Goldfried, 1971; D'Zurilla and Nezu, 1990), it is assumed that the social problem-solving ability consists of two important and relatively independent sections: (1) problem orientation and (2) problem-solving skills (later called as the "real problem solving") (D'Zurilla et al, 2002). Based on this theoretical hypothesis, D'Zurilla and Nezu (1990) designed the Social Problem-Solving Inventory (SPSI) consisting of two major scales: (1) problem orientation scale (2) and problem-solving skills scale. Each of these two scales consists of articles

(positive questions which are supposed to reflect the "good" problem-solving ability, and also the negative questions which are assumed to indicate the "weak" problem-solving ability. This hypothesis, under which the problem orientation and problem-solving skills are different despite being the correlated sectors of social problem solving, is approved by data which indicates that the items of problem orientation have a high correlation with total score of social problem orientation, but weak correlation with total score of problem solving skills scale, while the opposite is true for the subscales of problem-solving skills (D'Zurilla and Nezu, 1990).

Several other studies that investigated the emotional wellbeing of gifted students focuses on research variables and construct that are directly related to social problems such as positive problem orientation, negative problem orientation, problem defining and formulation, general alternative solutions, decision making, solution implement and verification, impulsivity/careless and avoidance style (D'Zurilla&Goldfried, 1971; D'Zurilla&Nezu, 1999; D'Zurilla et al., 2002).

D'zurilla et al., (2002) framework five dimensions in social problem-solving as a measured to solving a social problem. The Positive problem orientation and rational problem solving described as the constructive dimensions that have been found to be related to adaptive functioning and positive psychological well-being, whereas negative problem orientation, impulsivity-carelessness style, and avoidance style are dysfunctional dimensions that have been found to be associated with maladaptive functioning and psychological distress (see reviews by D'Zurilla&Nezu, 1999; D'Zurilla et al., 2002).

THEORETICAL PERSPECTIVES

The study is based on Theory of Mind (TOM) which was developed by David Premack in 1978 purposely to explain how the ability of a human to think, clarify, understand, and explain behavior based on mental being which includes sensing, understanding, thinking, wanting, believing, seeing, forecasting among others. Theory of mind is one of the oldest model used in educational research; it is a model that guides academic teachers to apprehend how students think about the state of mind (Al-Hilawani et al., 2002). Theory of mind is also applied in different research field in cognitive sciences, these include studying how mental being are assign to other person, and how mental states can be used as a yardstick to predict as well as explain their behavior and actions. In essence, mind theory is an important branch of cognitive sciences that examine mental and mind reading ability human.

Theory of mind has to do with understanding children have of their own and others' mind as well the relationship between the mind and the surrounding environment (Papaleontiou-Louca, 2008). This concept allows children or young learners to foresee, understand and possible explain actions by ascribing mental states for instance intentions, and desires (Astington, 1991). Generally, this concept review attempts to facilitate our understanding of how young children think and also how they behave based on their thinking ability (Papaleontiou-Louca, 2008).

METHODOLOGY

The quantitative research design was adopted for this study. The study sought to examine the difference between male and female gifted students level in problem-solving related to social problems among gifted students in Saudi Arabia. The main population of this study consisted of all 480 gifted students from the province of Jeddah. The findings in this

paper are drawn from a research study on the investigating metacognitive thinking skills on problem-solving related to social problems among gifted students in Saudi Arabia. Data were collected from the gifted students from the province of Jeddah in Saudi Arabia through questionnaires. A simple random sampling technique was adopted in selecting the gifted students, based on their status that is all gifted students in the province of Jeddah. The estimated number of the main population stands at 480 gifted students. The sample size for this study was forty students whom were taken from each class; first intermediate class, second intermediate class and third intermediate class and other forty students whom were taken from each class; first secondary class, second secondary class and third secondary class from the province of Jeddah.

Criteria For Selecting Gifted Students in Saudi Arabia

Alqefari (2010) analyzed the policies for gifted students in the Kingdom of Saudi Arabia (KSA) that explore the effectiveness and any possible weaknesses of gifted programs. The samples for the study consisted of gifted students studying in schools under the MOE authority. The selected students were given questionnaires, which surveyed their demographics, social life, academic achievements, and self-reflection on their giftedness. The conclusions and recommendations presented in the study were classified into four parts, namely, identification, provision, policy, and information. The predominant methods of identification were the intelligence tests and other tests associated with the overall academic achievement.

The Ministry of Education Saudi Arabia (2015), recently released the number of male and female students for two levels of education such as intermediate and secondary school as shown in Table 2.

Table 2: Students' Enrolment in Saudi Arabia

Level of School	School/students	Male	Female	Total
Intermediate	Number of Schools	3682	3204	6886
	Number of students	564747	504507	1069254
Secondary	Number of Schools	2027	2013	4040
	Number of students	445769	424859	870628
Total	Number of Schools	12200	11748	23948
	Number of students	2250225	2521559	4771784

The gifted students in Saudi Arabia are the targeted population of this study are the gifted students in the kingdom of Saudi Arabia. Although the research focused mainly in the Jeddah province in selecting the study sample. According to the Department of Education in the province of Jeddah, the number of male and female gifted students in the academic year 2013-2014 was 5210. The detail of the students enrolled in first, second and third intermediate and secondary classes based on their class level and gender in Jeddah province is stated in Table 3.

Table 3: Detail about Gifted Students in the Province of Jeddah

Class	Level	Males	Females	Total
Intermediate	1	648	411	1059
	2	510	359	869
	3	474	373	847
Secondary	1	443	409	852
	2	487	341	828
	3	423	332	755
Total		2985	2225	5210

Table 4: Detail about the Sample For the Questionnaire

Class	Level	Males	Females	Total
Intermediate	1	40	40	80
	2	40	40	80
	3	40	40	80
Secondary	1	40	40	80
	2	40	40	80
	3	40	40	80
Total		240	240	480

FINDINGS

The study used the quantitative methods of analysis. The quantitative study shows examine the difference between male and female gifted students level in problem-solving related to social problems among gifted students in Saudi Arabia. This section contains the analysis of the quantitative data. It also contains the reporting of the findings made from gifted students in Jeddah province in Saudi Arabia.

Research Question 1: Is there any difference between male and female gifted students level of problem-solving related to social problems among gifted students in Saudi Arabia?

Ho1. There is no difference between male and female gifted students in problem-solving related to social problems in Saudi Arabia.

To see how male and female gifted students differ in their level of problem-solving related to social problems among gifted students in Saudi Arabia, Mann-Whitney statistical test was used. This statistical technique is deemed appropriate to test to find out the difference in non-parametric scores. The outcomes significantly showed higher mean rank of males than females in comprehension monitoring, debugging strategies, Regulation of cognition, and metacognitive thinking skills as shown in Table 4.

Based on the results obtained from the findings, the hypothesis testing of this study is summarized as in Table 4. The below results have answered the research question number 1 and displays the finding for the hypothesis testing for all variables. The results indicate that other hypotheses were supported while other hypotheses were rejected.

Differences in Problem Solving Between Male and Female Gifted Students

This section provides answers for the research question of the study; “Is there any significance difference between male and female gifted students level of problem-solving related to social problems among gifted students in Saudi Arabia? Mann-Whitney statistical test was used it is the appropriate statistical test to find out the difference in non-

parametric scores, while independent t-test is the appropriate statistical test for parametric variables. No significant difference found in social problems based on genders as shown in Table 5

Table 5: Differences in Social Problems Based On Gender

Social Problems	Gender	Mean Rank	Mann-Whitney U	Z value	p value		
Positive problem orientation	Male	238.24	28256.5	-0.361	0.718*		
	Female	242.76					
Negative problem orientation	Male	245.29	27651.5	-0.759	0.448*		
	Female	235.71					
Problem defining and formulation	Male	245.28	27652	-0.760	0.447*		
	Female	235.72					
General alternative solutions	Male	244.07	27942.5	-0.569	0.569*		
	Female	236.93					
Decision making	Male	237.23	28015.5	-0.52	0.603*		
	Female	243.77					
Solution implement and verification	Male	244.45	27852.5	-0.628	0.530*		
	Female	236.55					
Impulsivity careless	Male	241.73	28505.5	-0.195	0.846*		
	Female	239.27					
Avoidance style	Male	245.14	27687.5	-0.736	0.462*		
	Female	235.86					
Rational problem solving	Male	243.71	28030	-0.508	0.612*		
	Female	237.29					
		Mean	SD	Mean Difference	95% CI	p value	
					Lower	Upper	
Social problems	Male	74.22	9.30	0.546	-0.998	2.089	0.487**
	Female	73.67	7.85				

Mann-Whitney test

Independent t test

Discussion of the Findings

In line with the objectives of the study and research questions to examine the difference between male and female gifted students level in problem-solving related to social problems among gifted students in Saudi Arabia, the responses from questionnaires analysed, the discussion will attempt to highlight on how male and female gifted students differ in their level of problem solving related to social problems among gifted students in Saudi Arabia.

Based on the research question, the findings revealed a significant difference between male and female gifted students concerning their level of met cognitive thinking skills. The results indicated that male's students do not differ in their level of problem-solving related to social problems among gifted students in Saudi Arabia.

The Difference Between Male and Female Gifted Students' Level in Problem-Solving Related to Social Problems Among Gifted Students in Saudi Arabia.

The result failed to reject the hypothesis. The outcome revealed that there was no significant difference between male and female gifted students regarding solving social problems in Saudi Arabia. The result proved that gender differences do not affect the problem-solving skills related to social problems among gifted student in Saudi Arabia. Therefore, students' attitude towards solving social problems was not influenced by gender.

A study conducted by Zhu (2007) on gender differences of gifted students in solving problems reported gender differences in mathematical problem-solving ability. The author also presented evidence of gifted students' variances in problem-solving that favoured males claiming that male gifted students outperformed gifted female students (Casey et al., 1997; Gallagher and Delis, 1994; Royer et al., 1999). Most results are not consistent with each other as rightly observed. While Hyde, Fennema, &Lamon, (1990). Found insignificant differences among different gender group of gifted students for problem-solving, and Caplan and Caplan (2005) strongly contended that the relationship between male and female gifted students and problem-solving is very weak. Tartre (1993) posited gender differences in gifted students in two ways. Female gifted students performed better in problem-solving in gender groups that possess exceptionally high spatial level resulted from the ability to integrate different met cognitive thinking skills for problem-solving. Secondly, male gifted students outperformed females with low spatial level skill in relation to their ability to use met cognition skills to compensate.

In contrast to the findings of the current study, some prior research indicates that solving the problems of gifted students differs with gender (Wang, 2004). However, these studies used different criteria with most focusing on gender and age differences. Other findings argued that male's gifted students are biologically better in spatial reasoning whereas females are better in verbal reasoning (Mokhtar, Termini, Termini, &Ayub, 2010;Popoola, & Olorundare, 2017; Effendi and Normah, 2009). In contrast, Gallagher and Lisi (1994) and Osafehinti (1988) concluded the opposite.

Moreno and Mayer's (1999) research on gender differences in responding to open-ended problem-solving questions suggested that males perform better than females on solving a problem. Another dissimilarity to the present study is by Fennema, &Peterson, (1987), who reported that male students performed better than female students when tasks involve problem-solving. Effandi and Normah (2009) also believe that male students are more successful than their female counterparts in problem-solving. For Gallagher and Lisi (1994), male students can solve implicit problems and problems that do not require specific strategies.

Implication for Further Research

Studies about investigating the difference between male and female gifted students level of metacognitive thinking skills among gifted students in Saudi Arabia is among the recent investigations conducted in Saudi Arabia, so these findings are considered basic and there is still a need for further research and discussion in this area. The findings of this study which have highlighted on investigating the difference between male and female gifted students level of metacognitive thinking skills among gifted students in Saudi Arabia is among the recent investigations conducted in Saudi Arabia particularly in the province of Jedda, suggested that more studies should be done on the difference between male and female gifted students level of metacognitive thinking skills among other categories of students to make the research

more general in nature. Since the present study was conducted in Saudi Arabia and in only the province of Jeddah, using gender difference on the level of metacognitive thinking skills, there is a need to make a deeper investigation of metacognitive thinking skills using many schools. Since the findings of this study showed that the outcomes significantly showed the higher mean rank of males than females in comprehension monitoring, debugging strategies, Regulation of cognition, and metacognitive thinking skills, research can also be done on strategies that could be used to improve the metacognitive thinking skills in Saudi Arabia. More research on metacognitive thinking skills using purely qualitative research methodology needs to be done to make deeper investigation about the phenomena.

RECOMMENDATIONS

There is a need to develop and establish a philosophy of the level of metacognitive thinking skills through Saudi Arabia Ministry of Education. Difference between male and female gifted students level of metacognitive thinking skills among gifted students in Saudi Arabia has many known benefits for Saudi Arabian Education system, as well as for teachers, students and Ministry of Education in general; Ministry of Education should therefore, enhance and facilitate programmes that encourage public as well as private school's involvement in the issue of metacognitive thinking skills among gifted students. The issue of metacognitive thinking skills, knowledge about cognition, declarative knowledge, procedural knowledge, conditional knowledge, regulations of cognition, planning, information management, comprehension monitoring, debugging strategies and evaluation should be inculcated in the mind of a gifted student in particular and all students of Saudi Arabia in general. Ministry of Education should improve metacognitive thinking skills among gifted students by teaching the teachers metacognitive thinking skills among gifted students, incorporating metacognitive thinking skills into the curricula. Useful policies to the gifted students should also be created by encouraging gifted students to develop their metacognitive thinking skills. Saudi Arabian government through its public schools should improve the quality of life of the gifted and non- gifted students contribute towards addressing their metacognitive thinking skills.

SUMMARY AND CONCLUSIONS

This study attempted to shed light on investigate the difference between male and female gifted students level of metacognitive thinking skills among gifted students in Saudi Arabia. The findings of this study explore the difference between male and female gifted students level of metacognitive thinking skills among gifted students in Saudi Arabia; which is a meaningful change in the Saudi education system in general. The result of the Mann-Whitney statistical test shows that other hypotheses were supported while other hypotheses were rejected. The outcomes significantly showed the higher mean rank of males than females in comprehension monitoring, debugging strategies, Regulation of cognition, and metacognitive thinking skills.

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