

# Critical Thinking Skills among Talented and Normal Students at Najran University

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**Abstract:** The present study aimed to determine the level of critical thinking skills among students in Najran University, Kingdom of Saudi Arabia. Furthermore, the study assessed the impact of Academic Achievement, specialization, sex on the critical thinking skills. The study sample consisted of 207 students (talented = 76 students and normal =131 students). The range of the age of the study sample was 18-22 years. The critical thinking skills scale (California Critical Thinking Skills Test; CCTST) was applied on the study sample. The results of the study showed the level of critical thinking skills was low among students university general. There is no significant differences ( $p>0.05$ ) in the level of critical thinking among the academic performance (talented and normal students). There is a significantly ( $p<0.001$ ) high level of critical thinking among scientific studies students compared to students of humanity disciplines. The level of critical thinking was no significantly ( $p>0.05$ ) between males and females students. In conclusion critical thinking among students is augmented with the type of academic performance, specialization, gender and level.

**Keywords:** Critical thinking, Talented. Academic Achievement. University students.

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## 1. INTRODUCTION

The thinking of the leading tools are people used to helping them adapt and meet the requirements of life. Hence, cared many of the countries in the world and harness their a lot of energy to develop students thinking skills in order to preparing students for success requirements for their future. Critical Thinking is the weapon which enables students to deal with the impact of the what became termed the cognitive revolution. Therefore, those interested education issues a consideration was given study this type of thinking, Which considered the most important educational goals, that seek to educational institutions to achieve these goals, especially for the undergraduate, It is no longer the purpose of education is remember, recall information and replication however purpose of education training the mind to be able make judgments on various teachings and ideas, consequently, critical thinking should not be just another educational option, but rather an indispensable part of general education.

Majority of Individuals need necessary and urgent to practice critical thinking so they have the ability to analyze and evaluate the facts, beliefs and events dispassionately and choose the best, and successful application of these skills to face of life's problems (Hergovich & Arendasy,2005).

Critical thinking evaluate not only results, ideas, beliefs, conclusions and hypotheses etc., but also the processes that have generated them, thus, Critical thinking is a higher order process and as such is not automatic, It is a conscious and deliberate process, involving the interpretation and evaluation of information or experiences (Mertes, 1991 ; Valenzuela, Nieto & Saiz, 2011).

Critical Thinking the important a kind of thinking, because it includes many of the mental skills, mainly for other types of thinking. Importance of critical thinking the U.S. Department of Education recommended that the students must receive education from primary to graduates aimed to developing critical thinking skills (Thomas & Smoot ,1994).

Encourage students to developing critical thinking skills become one of the most important Issues in higher education (Grafstein, 2007). John Dewey (1938) reported that in the early twentieth century, The main purpose for education should be teaching thinking.

He added teaching critical thinking should be focus on the development of teaching critical thinking skills rather than focus of the teaching scientific subjects only.

Ennis (1990) and Kuhn & Dean (2004) recorded that baccalaureate education should produce graduates who are willing and able to use their cognitive powers skills for analysis, interpretation, inference, evaluation, explanation, and self-monitoring meta-cognition to make purposeful judgments about what to do or not to do. Therefore Universities should be develop curricular and extracurricular activities, teaching methods and strategies for the developing students' critical thinking skill (Cotter & Tally, 2009).

Despite the importance of critical thinking for University students many researches has low critical thinking skills such as (Bilgin and Eldeleklioglu,2007) they revealed that university students had a tendency to speak emotionally most of the time. This was followed by 'speaking rationally' Which meant the low critical thinking skills based on emotions rather than reason.

Jubaili (2013) studied the critical thinking skills among University King Saud, Saudi Arabia. He should that the critical thinking skills was intermediate. added that the level of critical thinking skills scientific studies students was higher among Humanities Studies students.

### ***1.1 Critical thinking and talented***

It's important for any society interest to gifted extremely, the human wealth of nations is the source of strength and progress and talented recap that wealth. So many states has sought to Identify the characteristics in the category and the critical and creative thinking skills detection level for their, and care program to provide support also helping them acquire these skills.

Researchers in the field of educational research study interest the critical thinking skills for talented students, and importance of educational process. Dixon et al., (2005) focus on their talented students to practice critical thinking in the classroom.

Critical thinking is not an innate human ability as much as it is the acquired skills through learning, knowledge, enrich activities, training programs, Thus, the superior student is not related to developing critical thinking skills. Chambers. (2003) investigated the effects of the program enrichment to develop critical thinking skills for talented students, The results indicated growth of talented students critical thinking skills program participant compared to talented students who are not participating. Field. (2005) applied program talented students to develop critical thinking skills, the results indicate impartment of talented students critical thinking skills program participant Compared to talented students who are not participating. The studies also suggest that low level of critical thinking among talented students (e.g., Aldjaafarh and Kharabsheh, 2009 ; Alhaddabi, and Ashwal, 2012)

Basic research related to academic performance considered that mental abilities, Such as intelligence and memory as a major factor in learning and academic performance. But today it is known that people differences in their educational attainment do not depend solely on the amount of intelligence and their memory, but other factors that have insignificance solidarity with mental abilities are contribute to the academic achievement (Pour et al., 2008). Thus it may be likely the talented of the student might be due to test performed to measure lower levels of thinking skills Such as memorize and remembering, So the more memorization students was more talented.

Anne (2008) and Emir (2009) find there is no relationship between the academic achievements and critical thinking skills among students.

Consequently talented students need strategies, goals, and action plans implemented by the expert teachers to teaching students in the classroom, Beyer (1995) has pointed students do not teaching critical thinking skills alone, but rather they need guidance and education directly, the teacher is chooses skill who want teaching it for students then teaching students according to a specific strategies.

### **1.2 Importance of the Study**

critical thinking play an important and crucial role in effectiveness of the teaching Whether in a college education or pre-university (Birjandi & Bagherkazemi, 2010). Cotter & Talli. (2009) was confirmed Critical thinking is an important element of the education process, Where the critical thinking skills includes evaluation of information sources, the formation of a hypothesis and analysis of the results, Often these skills are goals colleges and universities seeking to teach.

Critical thinking skills are extremely important in the development of students' ability to compatibility with changes and events taking place in the world, Where these skills allows represented in analysis, interpretation, evaluation and explanation the opportunity to analysis and evaluate the information In drawing logical conclusions.

Although Saudi Arabia has made the goal of teaching thinking skill the most important for educational policy, However it was not reach the level of ambition. But education still on the ground in Saudi Arabia and most Arab states depends on Remember and indoctrination without concern for high-level mental processes

Thus investigated the level of critical thinking skills among University students is very important even education administrators in university can be design courses and programs aimed develop the critical thinking skills among university students .

### **1.3 Hypotheses study**

The Hypotheses of the study is determined by the following:

HO1: there is low level of critical thinking skills among students at Najran University.

HO2: There is no There difference in the critical thinking skills of students based upon talent & normal students?

HO3: There is no There difference in the critical thinking skills of students based upon gender?

HO4: There is no difference in the critical thinking skills of students based Upon Special Study?

## **2. METHODOLOGY**

### **2.1 Sample**

The study was carried out at Najran University, Saudi Arabia in the period 2013- 2014., The 207 participants had a mean age of  $M=20.36$  years at time of test ( $SD=1.08$ ), Of these students, 116 (56%) were humanity specialties and 91 (44%) scientific specialties .

### **2.2 Procedure**

This study relied on the survey method described by Cohen et al. (2007). This approach describes the situation as it is. A survey instrument was distributed to the study sample. The sample members participated voluntarily and filled out the questionnaires without any pressure, and there was a guarantee of confidentiality of information. Out of the 218 filled the questionnaire 11 questionnaires were excluded because they were not in conformity with the instructions supplied with the questionnaire. Thus total number of the valid questionnaires is 207 at a recovery rate of 94.9%. Two hundred and seven students were 109 males and 98 females, (76 talented, 131 normal).

The level of talented was based on the academic performance, were identified as a percentage 85% or more its success in course material.

### **2.3 Measures**

California Critical Thinking Skills Test (CCTST, Facione & Facione, 2002).

In this research for student critical thinking measurement, California critical thinking skills Test (CCTST, Facione & Facione, 2002). The test includes 34 questions that each question has 4 or 5 options only with one correct answer. These questions were in five areas of cognitive skills of critical thinking (deduction, induction, evaluation, analysis, inference) response time was 50 minutes, The CCTST is an external assessment of critical thinking that was Cronbach's alpha internal reliability indices of the five subscale range from .67 to .72 (Facione and Facione, 2002).

The CCTST has been used in Arabic studies of critical thinking skills in Jordan (e.g., Abdullat,2003), and to apply this scale on a sample study needed to be adapted Saudi culture. In order to assess the internal consistency of the scale Cronbach's alpha coefficient was calculated to measure the stability of the scale and was found to be 0.72. The values of reliability coefficient for each the 5 subscale's; analysis, interpretation, evaluation, explanation, inference, were 0.70, 0.69, 0.67, 0.72 and 0.86, respectively.

### Data Analysis:

Data analysis software used in this search is SPSS 16, descriptive statistics have been used and T Test, correlation coefficients.

## 3. RESULTS

3.1 Correlations, means, and standard deviations of study variables are reported in Table 1. low level of critical thinking skills among students at Najran University.

**Table 1. shows means and standard deviations for the students' responses to measure of critical thinking skills**

subscale	M	SD	Percentage
analysis	4.17	1.66	47%
Evaluation	3.23	1.54	46%
Inference	5.08	1.88	43%
Deductive	6.47	2.03	33%
Induction	4.73	1.78	26%
Total scale	23.69	6.34	39%

low level of all subscale analysis, Evaluation, Inference, Deductive, Induction and Total scale.

3.2 Correlations, means, and standard deviations and t-test were computed as shown in table 2.

**Table 2. Means, standard deviations and t-test according to the talent and normal students**

subscale	talented students (n=76)		Normal students (n=131)		T	P
	M	SD	M	SD		
analysis	4.35	1.74	4.25	1.57	0.43	0.67
Evaluation	3.28	1.58	3.31	1.54	0.15	0.88
Inference	5.19	1.76	1.85	0.15	0.41	0.68
Deductive	6.97	2.10	6.38	1.98	1.90	0.06
Induction	4.86	1.71	4.68	1.86	0.70	0.49
Total scale	24.67	5.75	23.94	6.13	0.76	0.44

hypothesis tow sought to test the null hypothesis of no differences in the subscale critical thinking skill of students based upon talent & normal students. A test of significant difference produced a t-value of 0.76 ( $p = 0.44$ ). Therefore, the null hypothesis of no difference in the critical thinking skill of students based upon talent and normal students.

3.3 Correlations, means, and standard deviations and t-test were computed as shown in table 2.

**Table 3. Means, standard deviations and t-test according to the gender**

subscale	Male (n=109)		Female (n=96)		T	P
	M	SD	M	SD		
analysis	4.48	1.75	4.06	1.44	1.89	0.06
Evaluation	3.30	1.59	3.31	1.51	0.04	0.96
Inference	5.34	1.88	5.17	1.75	6.67	0.50
Deductive	6.49	1.99	6.20	2.03	1.85	0.07
Induction	4.77	1.93	4.70	1.67	0.24	0.80
Total scale	24.80	6.74	23.46	5.64	1.54	0.12

hypothesis three sought to test the null hypothesis of no differences in the critical thinking skill of students based upon gender. A test of significant difference produced a t-value of 1.54 ( $p = 0.12$ ). Therefore, the null hypothesis of no difference in the critical thinking skill of students based upon gender.

3.4 Correlations, means, and standard deviations and t-test were computed as shown in table 2.

**Table 4. Means, standard deviations and t-test according to the Special Study**

subscale	humanity studies (n=116)		scientific studies (n=91)		T	P
	M	SD	M	SD		
analysis	3.56	1.21	5.13	1.65	7.64	0.01
Evaluation	2.55	1.31	4.19	1.33	8.78	0.01
Inference	4.29	1.48	6.41	1.50	10.11	0.01
Deductive	5.25	1.70	7.81	1.66	9.72	0.01
Induction	3.93	1.66	5.69	1.51	7.91	0.01
Total scale	19.88	3.99	29.25	4.41	15.82	0.01

hypothesis four sought to test the null hypothesis of differences in the critical thinking skill of students based upon Specialization. A test of significant difference produced a t-value of 15.82 ( $p = 0.01$ ). Therefore, the null hypothesis of no difference in the critical thinking skill of students based upon Specialization

#### 4. DISCUSSION

The present study investigated the level of critical thinking skills among students at Najran University. The results clearly indicated a decrement in the level of critical thinking skills among students due to the lack of attention to the development of critical thinking skills during the stages of general education, which is continued until they move to the Undergraduate stage in the University. Moreover, the university curriculum design could not be geared to develop the students' abilities and supply them with the necessary skills for critical thinking during the learning process. In addition, the faculty members may lack the training required to use the critical thinking skills so as to ensure the development of these skills in their students. This was censured by the results in numerous literature, which indicated that, the graduating college and university students lack fundamental critical thinking skills (Browne and Keeley 1988; Tsui, 1999). There are also many factors that may lead to the low level of critical thinking among students such as poor education efficiency, the education system in most of the universities depends on the adoption of some of the books and summaries, and the use of teaching strategies is limited, where, the thinking skills are not taught to the students (Zhou, et al, 2012).

The learning process is dependent mainly on lecture-recitation method and rely on summaries or university book as a way to understand and comprehend the lecture. These summaries do not raise thinking skills and not a good way to learn, and it is easy to memorize them in a short time, but forgotten in a very shorter time also.

This was clearly indicated by Aliakbari & Sadeghdaghighi (2012), who said that the lower level of critical thinking skills may be due to traditional habits of learning Such as remember, recall information, replication and lecture style that are in the general education system and still affecting the higher education institutions. This result is consistent with the results of Purvis's. (2009) that the most important factors affecting the development of students' critical thinking skills are curriculum design, educational activities, encouraging faculty members and enhancing their personal characteristics. In addition, this was consistent with the results of Klassen and Chiu. (2010) who pointed out that the self-efficacy of the faculty member has an important role in the development of students thinking skills.

Moreover, the lecture time is one hour at Najran University which is inconsistent with depth thinking, and not enough to practice the critical thinking. This result is consistent with that reported by Meyers (1986) who proved that teaching critical thinking could be at best when enough time is available to the students to practice deep meditation. So, the fifty or sixty minutes of the lecture in most universities is inconsistent with deep thinking and the longer lectures are better than short lectures in teaching critical thinking skills.

The results obtained from the second question indicated that there is no differences in critical thinking skills between excellent and normal students. This may be due to the tests in most Saudi and Arab Gulf universities generally focuses on

measuring the lower-order thinking skills such as identifying, remembering and retrieving information, and rarely measure higher-order thinking skills such as inference, analyzing and evaluation information, which requires critical thinking. This result is consistent with that reported by Aliakbari & Sadeghdaghighi.(2012) who stated that when students get high marks and superiority, it is not necessary that students have learned and perfected the critical thinking skills. Enormous literature pointed to the fact that there is no correlation between critical thinking skills and the level of academic study achievement, Facione & Facione. (1992) and Emir.(2009)]. Reed & Kromrey (2001) have determined that the students who get courses on critical thinking have gained critical thinking skills however there is no difference between students who take critical thinking courses and those who do not in terms of academic achievement.

The result is consistent with that of Alexander et al. (1995) who reported no differences in the components of met cognition among excellent and normal students. On the other hand, these results are contrary to the results of the study of Anne (2008) who reported no differences in critical thinking skills in terms of academic achievement. However, Kamaei and Weisani, 2013 reported the existence of correlations between the critical thinking skills and the academic study achievement .

The results correlated to the third question clearly indicated no differences in the subscale critical thinking skill of students based upon gender. This may be due to thinking processes generally performed by same level in both males and females exposed to the same teaching experiences and studying the same courses and programs. Moreover, at najran university, it is well known that many faculty members are teaching the males as well as the females at the same time, thus if there is some faculty members have experience in teaching critical thinking skills, they should transfer the same skill to both genders as they taught the same course curriculum among males and females. Also, female and male students have the same living standards, lifestyles, education, economic, social and environmental factors. This result is consistent with the results of many studies such as (Walsh & Hardy, 1999; Myers & Dyer., 2006; Anne, 2008; Kettler, 2012; Tanriverdi et al, 2012).

Results of question number four showed differences in the subscale critical thinking skill of students based upon scientific and humanity studies to the side of scientific studies. This may be due to the curriculum in scientific specializations and the available activities contain some necessary training that develop thinking skills especially in colleges of engineering, and medicine. Also, the faculty members in such specializations give quality question incentive for their involvement to develop critical thinking skills. On the other hand, the existing curriculum in humanity specialties overwhelmed by the theoretical nature, and teaching methods used to humanitarian specialties dominated by lecture style. Thus, the students are the recipient of the information in a negative way without allowing them the opportunity to practice thinking skills in research and exploration of information, analysis and evaluation. Also, the traditional teaching methods which teaches humanity specialties students focused on facts and memorizing information and the method do not focus on how to create experiences for students to gain factual knowledge, build concepts and form generalizations that help them learning critical thinking skills better. This could impede the development of critical thinking skills in these students. Also this result is consistent with the results of Walsh & Hardy. (1999) and Tanriverdi et al. (2012) who pointed out the differences in critical thinking skills when comparing students from humanity studies and scientific studies students.

Research studies have addressed the issue of improving critical thinking skills among post-secondary students, particularly with students studying for professional careers such as nursing, law, medicine, and teaching. Nursing and medical students were better able to make treatment decisions related to patient care following instructions in critical thinking (Niedringhaus, 2001)

## 5. CONCLUSION

It can be said that talented students in any society are the source of its strength and progress, and it is regarded that caring for them and identify their needs in any field, especially the educational field of the first priorities these communities, talented do not have the ability to rely on themselves. therefore they need from others to understand their feelings and to facilitate disabilities to invent, also they need to have a curriculum that includes many skills and various activities that develop students' abilities in critical thinking and take into account individual differences among students. They also need to teachers with experience in teaching critical thinking skills to students, so they can Identify the extent of acquisition for these students to critical thinking skills and its mastery, and the extent of exercising them in their scientific and practical, and work to engage training programs to be developed by educators and educational institutions that is one of the most

important goals the educational process. Teachers must also be received training courses in critical thinking so that they can teach it to their students, and they should focus more on the development of critical thinking skills among students in colleges of education, so that they could teach it to their students in general education.

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