



# INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PROGRESSIVE EDUCATION & DEVELOPMENT



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ISSN: 2226-6348

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To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v2-i4/447>

DOI: 10.6007/IJARPED/v2-i4/447

*Received: 05 June 2013, Revised: 30 June 2013, Accepted: 12 July 2013*

Published Online: 29 August 2013

**In-Text Citation:** (Sadeghi et al., 2013)

**To Cite this Article:** Sadeghi, A., Ahmadi, A., & Abbasi, F. (2013). The Relationship between Creativity and Thinking Styles of High School Male Students in Zanjan in the Academic Year 2012-2013. *International Journal of Academic Research in Progressive Education and Development*, 2(4), 191–196.

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Vol. 2(4) 2013, Pg. 191 - 196

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## The Relationship between Creativity and Thinking Styles of High School Male Students in Zanjan in the Academic Year 2012-2013

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### Abstract

This study aimed to investigate the relationship between creativity and thinking styles of high school male students in Zanjan in the academic year 2012-2013. The Abedi's Creativity test and Sternberg's thinking styles questionnaires were used for collecting the required data and answering the research questions. The statistical analysis was performed with SPSS software. The results showed that there was a significant relationship between students' thinking styles and creativity. According to their correlation with creativity, the thirteen thinking styles were measured by Sternberg's thinking styles questionnaire are: legislative, democratic, oligarchic, Monarchy, inside, general, anarchy. The partial thinking style had a negative correlation with creativity. Generally, these thinking styles were significant predictor for creativity of students in the study population. However, there was no significant relationship between the executive, judicial, hierarchical, conservative, and exterior thinking styles and creativity of the students.

**Keywords:** Creativity, Thinking Styles, High School Students, Zanjan.

### Introduction

The modern life gets new at every moment and innovation is necessary for sustaining an active lifestyle. Human societies need change and innovation to survive and escape death and stability. Today, the slogan "the death waiting for you unless you are creative and innovative" is considered by all managers in all organizations. However, the responsibility of educational institutions which educate the children and construct the future of the community is important. The educational institutions are responsible for nurturing creativity and innovation and appropriate use of talents and abilities of individuals; this will lead to cultural, economic, and social developments.

However, for their vitality, these institutions need training and benefiting from creativity and innovation at the organizational level (Rabie & Khanian et al., 2002).

The creative people are as mutant forces that hold the power and growth keys of society. The relationship between society and creativity is like the relationship between soul and body. Therefore, understanding the creativity brings joy and exhilaration to human society. It seems very wise that instead of paying compensation for backwardness, you pay cost for recognizing and fostering creativity (Yasayy, 2001).

Currently, the fostering and flourishing of creativity in learners is one of the most important goals in the education at the developed countries. These planning and investments is due to the fundamental role of creativity in development and overcoming life's inevitable changes. In recent years, hence, the concept of creativity has been discussed both in research centers and educational circles. In this regard, numerous studies have been carried out on factors influencing innovation and creativity.

The style of thinking is among the factors that are associated with creativity. The style is the preferred way of thinking in an individual. Style is not synonymous with ability; it is about how to use the potential ability. People may have similar capabilities but different thinking styles. It seems that there is a positive relationship between some of the thinking styles and creativity. This means that people who have these thinking styles are very creative, vice versa. In this study, we examine the influence of different styles of thinking on creativity.

Given the above, the basic question is: Is there a significant relationship between creativity and thinking styles of high school male students in the academic year 2013 – 2012 in Zanjan?

### **The concept of creativity**

Robert Ganyh considers creativity as a problem solving. However, the difference is that problem solving is based on the facts and its purpose is objective and external; while, creativity is personal and depends on intuition and imagination. In problem solving, in other words, individuals are faced with a situation where they have to find a solution; but in the creativity, the problem and its solution is created by individuals. Another important feature of creativity that distinguishes it from problem solving is its freshness. This means that creative solutions are fresh solutions that others have not already achieved them. Thus, the emphasis of creativity is on effect or efficiency of new idea (SAIF - 2000).

In Encyclopedia of Psychology, Ysnk, Arnold, and Miley, the creativity is considered as the capacity to create new relationships, unusual ideas, and taking distance from traditional patterns of thinking. The Qur'an has interpreted the creativity as capturing sometimes:

«تسخر لكم ما في السموات في الارض جميعاً»

### **Materials and Methods**

This study is a descriptive - correlational survey. The Abedi's Creativity test and Sternberg's thinking styles questionnaire is used for collecting the required data and answering the research questions. Wagner-Sternberg's thinking styles questionnaire was designed in 1991. The

questionnaire contains 104 items that comprise 13 subscales. Each subscale consists of 8 items that measure a thinking style.

### *The test of creativity*

Abedi's Creativity Questionnaire was used to measure creativity. This questionnaire consists of 60 items that each item has three options. The options are from low to high and score from 0 to 2 belongs to the items.

### **Findings and Discussion**

The results of creativity's test scores mean calculation showed that the creativity of sample is moderate (82.53). Also, the calculation of average for thirteen thinking styles among the sample showed that the dominant thinking style among students is legislative style. The other styles are: judicial, executive, anarchy, overall, exterior, democratic, oligarchic, Monarchy, partial, hierarchical, inner, and conservative.

Based on the results of the correlation coefficient, the null hypothesis is rejected; and this research hypothesis that there is a significant relationship between the legislative thinking style and creativity of the students is confirmed ( $p < 0.01, r = 0.632$ ). The calculation of regression also showed that legislative thinking style is a significant predictor for creativity of students ( $F_{1,373} = 248.600, p < 0.01, R^2 = 0.400$ ).

Based on the results of the correlation coefficient, the null hypothesis is confirmed; and this research hypothesis that there is a significant relationship between the executive thinking style and creativity of the students is rejected ( $p < 0.05, r = 0.077$ ). The calculation of regression also showed that executive thinking style is not a significant predictor for creativity of students ( $F_{1,373} = 2.243, p < 0.05, R^2 = 0.006$ ).

Based on the results of the correlation coefficient, the null hypothesis is confirmed; and this research hypothesis that there is a significant relationship between the judicial thinking style and creativity of the students is rejected ( $p < 0.05, r = 0.054$ ). The calculation of regression also showed that judicial thinking style is not a significant predictor for creativity of students ( $F_{1,373} = 1.107, p < 0.005, R^2 = 0.003$ ).

Based on the results of the correlation coefficient, the null hypothesis is rejected; and this research hypothesis that there is a significant relationship between the Monarchy thinking style and creativity of the students is confirmed ( $p < 0.01, r = 0.331$ ). The calculation of regression also showed that Monarchy thinking style is a significant predictor for creativity of students ( $F_{1,373} = 45.755, p < 0.01, R^2 = 0.109$ ).

Based on the results of the correlation coefficient, the null hypothesis is confirmed; and this research hypothesis that there is a significant relationship between the hierarchical thinking style and creativity of the students is rejected ( $p < 0.05, r = 0.088$ ). The calculation of regression also showed that hierarchical thinking style is not a significant predictor for creativity of students ( $F_{1,373} = 2.291, p < 0.05, R^2 = 0.008$ ).

Based on the results of the correlation coefficient, the null hypothesis is rejected; and this research hypothesis that there is a significant relationship between the oligarchic thinking style and creativity of the students is confirmed ( $p < 0.01, r = 0.466$ ). The calculation of regression also

showed that oligarchic thinking style is a significant predictor for creativity of students ( $F_{1,373}=103.687, p<0.01, R^2=0.218$ ).

Based on the results of the correlation coefficient, the null hypothesis is rejected; and this research hypothesis that there is a significant relationship between the anarchy thinking style and creativity of the students is confirmed ( $p<0.01, r=0.161$ ). The calculation of regression also showed that anarchy thinking style is a significant predictor for creativity of students ( $F_{1,373}=9.941, p<0.01, R^2=0.026$ ).

Based on the results of the correlation coefficient, the null hypothesis is rejected; and this research hypothesis that there is a significant relationship between the overall thinking style and creativity of the students is confirmed ( $p<0.01, r=0.281$ ). The calculation of regression also showed that overall thinking style is a significant predictor for creativity of students ( $F_{1,373}=32.083, p<0.01, R^2=0.079$ ).

Based on the results of the correlation coefficient, the null hypothesis is rejected; and this research hypothesis that there is a significant relationship between the partial thinking style and creativity of the students is confirmed ( $p<0.01, r=0.239$ ). The calculation of regression also showed that partial thinking style is a significant predictor for creativity of students ( $F_{1,373}=22.589, p<0.01, R^2=0.057$ ).

Based on the results of the correlation coefficient, the null hypothesis is rejected; and this research hypothesis that there is a significant relationship between the inner thinking style and creativity of the students is confirmed ( $p<0.01, r=0.305$ ). The calculation of regression also showed that inner thinking style is a significant predictor for creativity of students ( $F_{1,373}=38.235, p<0.01, R^2=0.093$ ).

Based on the results of the correlation coefficient, the null hypothesis is confirmed; and this research hypothesis that there is a significant relationship between the exterior thinking style and creativity of the students is rejected ( $p<0.05, r=0.100$ ). The calculation of regression also showed that exterior thinking style is not a significant predictor for creativity of students ( $F_{1,373}=3.742, p<0.05, R^2=0.010$ ).

Based on the results of the correlation coefficient, the null hypothesis is rejected; and this research hypothesis that there is a significant relationship between the democratic thinking style and creativity of the students is confirmed ( $p<0.01, r=0.504$ ). The calculation of regression also showed that democratic thinking style is a significant predictor for creativity of students ( $F_{1,373}=129.951, p<0.01, R^2=0.258$ ).

Based on the results of the correlation coefficient, the null hypothesis is confirmed; and this research hypothesis that there is a significant relationship between the conservative thinking style and creativity of the students is rejected ( $p<0.05, r=0.019$ ). The calculation of regression also showed that conservative thinking style is not a significant predictor for creativity of students ( $F_{1,373}=0.138, p<0.05, R^2=0.000$ ).

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