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The role of creative minds (creativity) in the process of academic achievement

Samira Molaei[1], Ali Akbar Sheikhi Fini[*2], Mohammad Noor Rahmani[1]

1. Department of Educational Management, Bandar Abbas Branch, Islamic Azad University, Bandar Abbas, Iran.
2. Hormozgan University, Bandar Abbas, Iran.

A B S T R A C T

This research examines the role of creative mind (creativity) in the process of academic achievement of fifth grade female students. The statistical population of the study consisted of all female elementary school students in the district 1 of Bandar Abbas (Iran). The results of this study indicate that according to (R^2 = 0.283) and (β = 0.532), and with regard to the significant level (P <0.01), it can be said that having creative minds has a significant effect on academic achievement (t = 11.27). One of the distinguishing features of human thinking is creativity, so efforts must be made to flourish this privilege. With the arrival of children in adolescence and high school, and due to the presence of an exam in Iran, people will be more effort and students may suffer from academic and personality problems, which can have adverse effects in having creative thinking.

Keywords: Academic Achievement, Learning, Creative Mind, Creativity.

INTRODUCTION

Creativity is an interesting and controversial issue and poses many questions; in the psychology Wikipedia, creativity is the desire and aspiration for creation that exists in all individuals of all ages and has a direct and close relationship with the social and cultural environment(Gibson, 2017; Robinson, 2008; Weisberg, 2015). In fact, creativity is one of the main and important indicators in human life.

Seligman and Csikszentmihalyi (2014) states that creativity is one of the most attractive and controversial topics in various scientific fields, especially human life. Creativity refers to the individual's ability to produce ideas, theories, suggestions, or new objects, and redevelopment in other fields, which the experts regard as genuine, scientifically, aesthetically and technologically valuable(Huang, Peng, Chen, Tseng, & Hsu, 2017; Jang & Ko, 2017; Lee, Walsh, & Wang, 2015).

Social psychologists have focused on the role of social structures in the cultivation of creative people (Amabile & Pillemer, 2012; Perry-Smith, 2006; Perry-Smith & Shalley, 2003). In this group of studies, creativity is defined as a system of multiple cognitive elements in social fabric (Conte & Castelfranchi, 2016; Marcy, 2015; Steffens, Gocłowska, Cruwys, & Galinsky, 2016). And these people believe that family, school, community and personal lives are considered as elements of the creative position.

* . Corresponding Author: Sheikhi Fini. A. K.

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Byron, Khazanchi, and Nazarian (2010) in his research reports a negative relationship between creativity and anxiety as well as under pressure. In his research, Wigert, Reiter-Palmon, Kaufman, and Silvia (2012) points out the positive and negative aspects of perfectionism, and states that the emphatic attention to detail and commitment of the two main components of perfectionism is positive, and the presence of these two components in positive perfectionist individuals brings about the prosperity of their ability and innovative upgrades are creative, which are the two components of the perfectly positive people, the characteristics of creative people. We must remember that creativity is not necessarily ingenious for everybody. Everyone can show creativity in his daily routine, leading to more creativity and some less. The fundamental question is whether creativity is influential in the learning outcomes and academic achievement of students.

METHODOLOGY

The present study, based on a systematic framework, tries to measure a certain reality, and the researcher looks beyond this fact. Therefore, a quantitative method has been used. Since this research intends to examine the role of having a creative mind with academic achievement and the learning outcomes of students, the research method used to achieve this goal was correlation.

The statistical population of the study consisted of all female elementary school students of the fifth grade of Bandar Abbas district 1in the academic year of 2016-2017, whose number is 1368. According to the size of the society and the research method, the sample size was calculated through Cochran's formula of 300 students from fifth grade female students by simple random sampling.

In order to collect research information, the measurement tools were used as follows:

Abedi Creativity Scale: This scale is a multi-dimensional paper pencil questionnaire for creativity measurements is based on the theory of Torrance (Farahani, Najafizadeh, Kheyrkhah, & Ebrahimi, 2015). This test has 60 questions in three options: 22 questions on fluid dimension, 11 questions on flexibility, 11 questions on expansion, and 16 questions devoted to the initiative. The final form of the multi-dimensional paper pencil questionnaire of creativity measurement, which was set up in 1992 and used in the Naderi, Abdullah, Aizan, Sharir, and Kumar (2009), has been used in this research. Abedi studied the reliability of this test using Cronbach's alpha method. The coefficients obtained for fluid, innovation, flexibility and expansion were 0.75, 0.71, 0.72 and 0.78 respectively. Also, using Confirmatory Factor Analysis Method, he showed that this questionnaire had structural validity.

Academic Achievement: Students' academic achievement was used to measure academic achievement.

Data were computed using descriptive statistics including standard deviation, percentage and mean, and inferential statistics including variance analysis using SPSS version 22.

RESULTS

Table 1. Descriptive statistics of the research variables

Variable	Mean	SD
Creative Mind	3.78	0.97
Academic Achievement	15.12	2.83

Statistical analysis of single-variable regression analysis was used to determine how to explain academic achievement based on having a creative mind. In this analysis, academic achievement was considered as a criterion variable and having creative mind as a predictor variable.

Table 2. Results of regression analysis of academic achievement based on the scores of creative mind

Model	R	R^2	Adjusted R^2	SD
1	0.532	0.283	0.281	0.89

The results of the table 2 show that the coefficient of determination is 0.283 (R^2 = 0.283). Based on these Beta coefficients, the most important role is on the academic achievement of the creative mind, so that with each unit, the change in the creative mind variance is equal to 0.532 changes in the variance of the academic achievement score.

Table 3. Results of variance analysis of academic achievement regression based on creative variable scores

model	Source	SS	DF	MS	F	Sig.
1	Regression	57.387	1	57.387	59.23	0.001
	Residual	247.135	198	0.97		
	Total	304.522	199			

The results of regression analysis in the table 3 show that the variable regression of academic achievement on the variable of the creative mind is statistically significant and these components explain the part of the variance of learning outcomes. In other words, this result shows Regression coefficients are significant and there is sufficient evidence to confirm the hypothesis. With respect to the value of F, it indicates that at least one of the components of the predictive variable, in predicting the variable of the criterion is significant.

Considering the amount of β contained in the table 4, it can be concluded that the level of explanation of variance of predictive variables on the criterion and having creative minds (β = 0.532) is significant due to the significant level (P <0.01) The significance of learning outcomes is explained by the amount (t = 11.27).

Table 4. Variable prediction of academic achievement on the variable of creative mind

Criterion Variable	Predictive variable	Non-standardized		Beta	T	Sig.
Academic Achievement		B	Error			
1	Constant	2.323	0.239		7.46	0.001
2	Creative Mind	0.654	0.083	0.532	11.27	0.001

CONCLUSION

Humans have creativity; others have more creativity in one field, and others in other fields. Creativity can be blossomed or destroyed by teachers in students. Therefore, it should provide an environment and a supportive environment for the growth and development of the creativity of students. Creativity means the creation and formation of ideas, thoughts, new contemplations, exquisite thinking, looking at different ways, discovering and inventing new solutions to solve a problem, and innovating the process of acquiring creative thoughts and turning them into a product and service or a method operational is useful. Teachers and educators are very effective in identifying the interests and areas of creativity and innovation of students, because if this force, which is actually a source of energy in the community, is disregarded, education is weakened every day and its wheels are one after another, the movement will open.

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