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A REVIEW OF THE EFFECT OF CREATIVITY-BASED TEACHING METHODS ON ADOLESCENTS' ACADEMIC PERFORMANCE IN THEIR WRITING, THINKING AND LIFESTYLE COURSE

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ABSTRACT

The aim of the present study is to investigate the effectiveness of creativity-based methods on adolescents' academic performance in their writing, thinking and lifestyle courses in the statistical population of all male secondary school students in Babolsar in the academic year of 1996-97.

The sampling method involves one-stage cluster sampling method and the seventh grade classes of selected schools that have the same teachers in their writing, thinking and lifestyle courses are divided into two experimental and control groups based on random assignment.(Each group has 30 students. A total of 60 people) .The necessary information has been collected through the implementation of the teacher-made assessment of thinking, lifestyle and writing lessons. The research methodology includes quasi-experimental with pretest, posttest and control group. The experimental group is exposed to creative methods based teaching for two months; the data are analyzed using the analysis of covariance method with the relevant assumptions.

The main finding indicates that the effect of creativity-based teaching methods on the academic performance in the writing course has the statistical value of F = 52.252 and P <0.000, which confirms the effectiveness of creative teaching methods on improving the adolescents academic performance in their writing course.

Also, the effect of creativity based teaching methods on the academic performance in thinking and lifestyle courses has the statistical value of F = 0.270 and P <0.606, which confirms the effectiveness of creative teaching methods on improving academic performance in thinking and lifestyle courses.

STATEMENT OF THE PROBLEM

In order to face the multitude of hidden challenges in the future, human society, in its dream to achieve ideals such as peace, freedom, and social justice, considers education as a valuable asset. Due to the advancement of technology and the constant changes in its all aspects, the conditions for change must be created in every society. The prerequisite for any change is knowledge and awareness, followed by hard work to achieve the desired goals. The importance of better teaching and learning methods has always been considered by scientists and researchers in the educational sciences since the beginning of the twentieth century including Moman and Lai and then Clapard, Maria Montessori, John Dewey, Herbert, Thorndike and others and in many countries during forty years a lot of studies have been done on the fruitfulness of the teaching methods in all courses (Afshar 1390 p. 183).

Nowadays, teaching approaches are focused on innovation, creativity, and knowledge production, so these approaches are the most important characteristics of the teaching method and the teaching process is based on the principle of learners' interaction with the environment and the discovery of facts (Fazlikhani, 2013 One of the main objectives in each society is improvement of logical and creative thinking in students, which has long been considered by professors and experts in the education system, and its estimation mainly depends on the quality and methods of teaching. Because wherever there is talk of education, willingly or unwillingly, the category of teaching and its methods show themselves. Research on teaching methods indicates that many teachers still spend a significant portion of their class time lecturing or asking questions that require nothing more than collecting simple scientific facts. And only a little time in session is allocated to questions that require thoughtful answers (Najafi Hezar Jaribi, 2014).

Teaching is not just explaining a lesson or listening to it. The aim of Learning is not just remembering and passive learning, but learning includes engaging the students actively and creatively and sharing in a teamwork (Tick, 2007). In fact education is a step by step development from simple to complex and from easy to difficult tasks. so, first a simple and general plan should be created, like a sketch which created by a face painter and then paying attention to the details (Naghibzadeh, 2015).

A good teacher is not someone who teaches a lot of subjects in a short time, but someone who inspires the student to learn and understand. Because the goal of education is not to accumulate information, but to improve the ability of thinking, and the best way to understand is to apply knowledge, we understand and remember better when we ourselves experience it. Naqibzadeh, 1394).

Whenever a person wants to do something but fails, a problem arises for him. In other words, any ambiguous situation is a problem. Most problem-solving researchers argue that a problem just remains only when no immediate answer is available (Gok & Silay, 2010).John *Dewey* (1859–1952) believes that, the best teaching method is to use the method of scientific research by the students themselves, the same method that a researcher or scientist uses to arrive at the answer to a problem. After facing an ambiguous situation, he asks a precise question, searches and collects information to find the answer, arrives at the answer or answers in the field of the information he provided, and finally evaluates it to make sure it is correct or incorrect. The teacher should refrain from expressing ideas firmly and dogmatically because this will cause the students assume that all important issues are solved previously (Naqibzadeh, 1394). Even giving information is just useful when it is needed to solve the problem, because information can be identified only when they are applied (Naghibzadeh, 1394).

In contrast to this method, there is a traditional teaching method, the most important thing in this method is what the teacher says during his speech in class, all the students should listen passively and pay attention to him. There may also be a tendency for the teacher to speak alone in the class and even discourage or frustrate students from asking questions or commenting. Given the above, the question is whether teaching methods based on creativity are effective for academic performance in writing, thinking, and lifestyle courses?

RESEARCH METHODOLOGY

The present paper research methodology is quasi-experimental and experimental pre-test and post-test design with a control group through which the effect of independent variable on the experimental group is evaluated. The design of the present study is as follows:

Table: General image of research

Post test	**Independent variable**	**pretest**	**Random selection**	
T2	**X**	**T1**	**R**	**Experimental group**
T2	**------**	**T1**	**R**	**Control group**

Population and statistical sample of research

The statistical population of the present study includes all secondary school students in Babolsar in the academic year of 1996-97

Statistical sample and sampling method

First, by one-stage cluster sampling method, 2 schools are selected from 10 secondary schools that have the same teachers in the writing course, and then

their seventh grade classes are divided into experimental and control groups by random assignment method. The first tests of writing course are performed in a seventh grade school as an experimental group and peer secondary school students as a control group. Intervention is performed by active teaching methods based on creativity, brainstorming and innovation during 3 academic months. Then joint post-tests are taken from both groups and the results are analyzed.

Data collection tools

The teacher made tests of the writing course of the seventh grade of secondary school and the thinking and lifestyle courses of the first grade of high school.**:**

Methods and data analysis instruments

In the present study the data are analyzed by the descriptive statistics of mean and standard deviation for delineating the variables and demographic characteristics of the research subjects and to test the research hypotheses, the statistical methods of analysis of covariance, Pearson correlation and regression with the use of SPSS software are used.

RESULTS AND FINDINGS

The research findings are reviewed in three parts. The first part deals with demographic characteristics, the second part deals with the variable status of the sample under study, and the third part deals with the study hypotheses.

A review of demographic characteristics

Table: Mean and standard deviation of individuals' scores in research variables

		Mean and standard deviation of individuals' scores in research variables in pre-test and post-test	
writing	**Thinking & lifestyle**		
60	60	**number**	**pretest**
13.82	15.82	**mean**	
2.288	22.601	Standard deviation	
10	8	**maximum**	
18	187	**minimum**	
60	60	**number**	**Posttest**
15.63	16.85	**mean**	
2.270	2.596	Standard deviation	
11	10	**maximum**	
19	19	**minimum**	

As can be seen in the table, the average scores in the pre-test and post-test in the writing course are 13.82 and 15.63 and in the thinking and lifestyle course are 15.82 and 16.85.

Theory of normalization of variable data distribution

Kolmogorov-Smirnov test table for reviewing the normalization of distribution of research data

Thinking&lifestyle	**writing**	
120	120	number
15.33	14.73	mean
16.026	2.446	Standard deviation
.401	.103	Absolute
.401	.093	positive
-.338	-.098	negative
.401	.103	statistics

R	Significance level		*F*		Degree of freedom		
	Deviation from linearity	Linearity	Deviation from linearity	Linearity	Deviation from linearity	Linearity	
/230	0/78	0/56	1/28	0/78	11	1	Academic Performance

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As can be seen in the table, all research variables are linearly related with the respective covariate. As a result, it is true that the relationship between dependent auxiliary variables (covariates) is linear.

Homogeneity of variances

In the present study, before analyzing the data, Levin test is used to review the homogeneity of variances.

Table of results of Levene's variance homogeneity tests in relation to the variables of cognitive creativity and emotional creativity and academic performance

Significance level	***F* number**	**Dependent variable**	**effect**
			group

0/06	2/564	Academic performance	

The table results indicate that Levin test is not significant in any of the research variables. Therefore, there is not a significant difference in the variables of cognitive creativity and emotional creativity and academic performance between experimental and control groups and the assumption of homogeneity of variances is confirmed.

A review of the research hypothesis

A review of the main and secondary hypothesis

In this section, the hypotheses raised in the first chapter of the research are reviewed.
Hypothesis 1: The application of creativity-based teaching methods is effective on the academic performance of adolescent writing lessons.

To test this hypothesis, univariate analysis of *covariance* in MANCOVA text based on dependent variables is performed. The results of this analysis are presented in the table. The table indicates the results of univariate analysis of covariance in MANCOVA text based on comparing post-test scores with pre-test scores of academic performance variable in writing course in both experimental and control groups.

Table of results of univariate analysis of covariance of the effect of group membership on scores					
significance	**F**	the mean of the squares	**df**	The sum of the squares	**variable**
.000	52.252	144.043	1	144.043	
		2.757	58	159.890	**error**
			60	14968.000	**total**

According to the table, the results of univariate covariance analysis indicate a significant difference between both experimental and control groups in academic performance in writing lesson with the statistic value of ($F = 52.252$ and $P < 0.000$) so it can be concluded that there is a significant difference between the experimental and control groups in the variable of academic performance in writing course.

Hypothesis 2: Applying creativity-based teaching methods is effective on the academic performance in thinking and lifestyle lessons.

To test this hypothesis, univariate analysis of *covariance* in MANCOVA text based on dependent variables is performed. The results of this analysis are presented in the table. The table indicates the results of univariate analysis of covariance in MANCOVA text based on comparing post-test scores with pre-test scores of academic performance variable in thinking and lifestyle courses in both experimental and control groups.

Table of results of univariate analysis of covariance of the effect of group membership on scores Table of results of univariate analysis of covariance of the effect of group membership on scores					
significance	**F**	the mean of the squares	**df**	The sum of the squares	**variable**
.606	.270	1.840	1	1.840	
		6.824	58	395.810	**error**
			60	13629.000	**total**

According to the table, the results of univariate covariance analysis indicate a significant difference between both experimental and control groups in academic performance in thinking and lifestyle lessons with the statistic value of (F = 270 and P> .606), so it can be concluded that there is a significant difference between the experimental and control groups in the variable of academic performance in thinking and lifestyle courses.

DISCUSSION

Analysis of the findings of secondary school students in Babolsar indicates that creativity-based teaching methods have had an effect on students' academic performance in writing lessons and therefore the general hypothesis of the research is confirmed. This finding conforms with Kamian Khazaei (2010), Fazli Khanali (2004), Ali Hosseini (2010), Gauguin (1983), Madon and Leighton (1968), Milgram (1990), Torrance (1987), Remy and Pierre (1974), Sullivan (1974), Chambers (1973), Romero Gonzalez (2009), Klins (2009), Peng (2010), Consting (2010), Claverne (2010), Michelle and François 2010), Marie Klein (2009) , Katami and Alkais (1995) Beach Hooda et al. (1994) align findings.

A study by Gauguin (1983) who used the Torrance Creativity Test on a sample of 225 children in a school found that the effect of active methods on the growth of student's creativity, especially girls is high. In contrast, students who are thought in a traditional way have shown the least increase in creativity. After one year, even their creativity is shown to be lower than the baseline compared to the opposite group (active method). Another study by Haddon and Leighton (1968) comparing dynamic and traditional classes found that children indicate a more consistent superiority in divergent thinking after 4 years of elementary class than children in traditional classes.

Milgram (1990) also believes that the reason for the school's failure to develop creativity is largely due to uniform education. However, children are completely different from each other. Torrance (1987) found in 308 studies that appropriate teaching methods have a positive effect on children's creative achievement and they are successful in 70% of cases. A study by Remy and Piper (1974) and Sullivan (1974) focused on comparing dynamic or open classes with traditional classes. The open or dynamic classroom space results in the development of research, curiosity, manipulation, self-regulation, and learning. In a study of 671 teachers, Chambers (1973) reviews their negative and positive effects on students' creativity. The analysis of the answers showed: Teachers who promote students' creativity tend to use informal methods in managing and guiding the class. They let the students choose their desired topics. They welcome their unusual perspectives, reward their creativity, interact with students outside the classroom, and encourage students' independence and positive performance as a role of effective pattern of creativity.

In a study conducted by Romero Gonzalez et al. (2009), the effect of exploratory learning methods on the speed of receiving and improving information retrieval has been confirmed. Clims (2009) during his research finds that updating teaching methods and developing them lead to the best teaching conditions. Cheng (2010) believes that creativity should be enhanced in the classroom via new and changed teaching methods that in a best way facilitate educational conditions. Claverne (2010) believes that teachers should use different and more diverse methods in the classroom until the end of the school year for students in order to learn better and to achieve different aspects of creativity. Michela and François (2010) consider a more advanced way of teaching creativity which enhances teachers' knowledge, attitude and skills. Marie Klein (2009) concludes that the method of teaching lecture affects creativity and also activates the students mind as a complementary method.

Katami Eccles (1995) reviews the relation between creativity and academic achievement and cultural, social, and economic variables, and finds that there is a significant difference between creative and non-creative individuals in terms of their scores. Beach Hooda et al. (1994) study the effect of exploration training in biochemistry and conclude that exploration has a positive effect. In a study conducted by Fazli and Khanali in 2004 under the title of comparing the effectiveness of active and traditional teaching methods on the creativity of secondary school students in Farbodan city, they conclude that active teaching methods have a greater role in academic achievement. In a study conducted by Ali Hosseini in 2010 entitled "The effect of active method and passive teaching method on creativity of secondary school students in Tehran District *1*." concluded that new teaching methods have a greater impact on creativity. Therefore, we conclude that creativity-based teaching methods affect students' creativity.

Explanation: In general, it is clear that creativity-based teaching methods affect students' academic performance, so our country education system, should review appropriate teaching methods and offer several creative training courses each year for its teachers so that teachers and instructors can use teaching methods appropriate to their courses and thus increase creativity and productivity in students.

منابع

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