

EFFICIENCY OF CREATIVE TEACHING METHODS ON THE CREATIVITY OF MALE STUDENTS OF THE 6TH PRIMARY SCHOOL GRADE OF MAZANDARAN CITY IN THE EDUCATIONAL YEAR OF 2018-2019

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Abstract. One of the common objectives of educational systems all over the world is to help in growing a creative personality and educating creative humans, the one easily able to adjust himself in the evolved community of today. In terms of the objective, this research has investigated the application of creative teaching methods on the creativity of students. In terms of method, it is semi-experimental and in the form of pre-test and post-test with the control group. The sample of the present research is 240 people from the students of the 6th grade of the primary school who are equally divided into the experiment group, namely the students of the experiment schools (120 people) where the teachers participated in performing the scheme in educational courses and control group (120 people). The Torrance creativity test form B was used for collecting information and the Torrance pictorial creativity (form B) was used in the post-test for both groups. Data of the research was analyzed using the independent group T^2 . The findings of the research indicated that there is a significant difference between the control and experimental group in terms of fluidity, flexibility, originality and extension. The amount of the growth of the creativity of the students of experiment group has been higher than control group.

Keywords: creative teaching methods, creativity, students of the 6th grade.

1. Introduction

The desire to be creative is seen throughout the history and at all human communities. Indeed, the power to generation and creativity is one of the most beautiful properties of humankind (Vaseqi F 1995).

For more than 50 years, Torrance had been one of the pioneers of research on creativity. Torrance had applied many experiments for creative thinking. According to Torrance, all the people have the talent of creativity and it can be increased in various ways (Widal 2005).

The advance of communities and the evolutions and changes taken place in the world, along with rapid acceleration of the sciences and technology influenced the attitudes, thoughts, needs and skills of mankind. This has made the educational systems globally to be ready to accept evolutions and changes. Today, rapid changes of knowledge in the universe has put major problems on the path of educational systems (Shabani 2008).

Among the teachers of educational courses, the role of primary school teachers in the construction and empowerment of creativity is of considerable importance. The property of creativity is also of considerable importance. The property of creativity and being innovative has also been considered for the primary school teachers in the educational system of the primary school (Safi F. 2009).

In addition, Torrance (1988) considers creativity as a process including being sensitive towards the problems, gaps, bottlenecks and inconsistencies. It is the sensitivity created following the recognition of the problem and is followed by hypotheses. The hypotheses are then tested and the final results are obtained.

Proctor (1999) stated, in a definition quoted from Wertheimer (1959) that: creativity includes the ability of keeping a new and different perspective to a subject. Rancho and Richards believe that creativity is an insight that is manifested in the daily activities and on its basis, the creative person looks for experiences satisfying his potential requirements to exploration, curiosity and risk.

Regarding the importance of creativity, there is the question of whether or not the mindset can be improved by training creativity and in what elements of the mind this empowerment is done?

According to some experts, creativity can be trained. Mc Gregory believes that the power of creativity requires exercise and sporting like the muscles of the body (Azhdari and Razavi 2010:8).

Debono (2008) considers creativity as a skill that can be learnt, developed and applied (Ahmad Aqae 2011:3).

The experts of creativity like Torrance agree on four features of creativity including fluidity, flexibility, innovation and extension, believing that these are empowered by training.

Torrance conducted some researches on the creative children as well as teachers teaching intellectual creativity in the university of Minnesota. In addition to the connection he found between the creative jobs and the age of children, he was able to find an important relationship between the creativity and the environment influencing creativity (Shell Cross 1985).

Bognar and IbraCovich (2009) conducted a research entitled: (creativity in educating plant production) on the students of two high-schools in Croatia with the following objectives:

1 - the encouragement of students to divergent thinking through applying the creative techniques in the classroom.

2 - increasing students' satisfaction with the possibility of participating in the planned activities.

The findings of the research indicated that using the creative techniques and other factors such as teaching duration, teaching methods is effective on growing the creativity of students in the creative activities as well as the creative attitudes of teachers. It can be concluded from the findings of the research that the education of creativity has

sufficient, strong evidences outside the country. In recent years, some researches were done in this context in our country as well, highlighting the role of training creativity in the enhancement of the creativity of students.

Afshar Kohan (2010) conducted a research entitled: (comparing the difference amount of the growth of the creativity of children under training, being educated and not educated in the context of the creativity of children of the 1st grade of the primary school of Khorasan province). The results obtained implied the significance of the average differences of both the experiment and control groups.

Sharifi and Davari (2009) conducted a research entitled: (comparing the impact of three methods of raising creativity in increasing the creativity of the students of the 2nd grade junior school students) and came to the conclusion that the difference between the pre-test and post-test scores of all groups but the experiment group was significant.

With regard to the definitions of creativity and the accomplishments of the researches conducted in this context, it is found that the creativity can be educated and the teachers, followed by learners can be trained and educated by applying the methods associated with it.

2. Research method

This research was conducted as a semi-experimental one and in the form of a pre-test, post-test with the control group.

Statistical population

The statistical population consisted of the students of the 6th grade of the primary school of Mazandaran province in the semester 2018-2019. The selected sample consisted of 240 students of the schools of the cities of Babul, Babul Saar and Qaem Shahr that were selected by the multilevel clustering sampling.

3. Research tools

These were the pictorial tests of A and B of the pictorial creativity of Torrance that were used on the control and test groups in the pre-test and post-test levels. An educational workshop was held for teachers after holding the pre-test. The workshop was held aiming at training the activation methods of the fluidity, flexibility, originality and extension of students.

4. Research findings

4.1. The first hypotheses

The application of the methods of creative teaching has a significant impact on the creativity of the male students of the 6th grade of the primary schools of Mazandaran province.

Table 1. the average of the scores of the pre-test and post-test level of the control and experiment groups in the first hypotheses

سطح معناداری	T محاسبه شده	درجه ی آزادی	انحراف معیار	تعداد	میانگین	گروه	آزمون
۰/۱	۰/۵	۲۳۸	۳۰/۲۱	۱۲۰	۱۱۳/۲۰	گواه	پیش
			۲۱/۰۶	۱۲۰	۱۱۴/۰۱	آزمایش	آزمون
/۱	۱۴/۱۶	۲۳۸	۲۹/۰۶	۱۲۰	۱۱۰/۱۰۰	گواه	پس
			۶۳/۰۵	۱۲۰	۱۲۱/۰۹	آزمایش	آزمون

Analyzing the data of table 1 displays that the calculated t in the pre-test with the degree-of-freedom of 238 is smaller than the t of table at the significance level of 0.01. therefore, it can be certainly stated that there is no significant difference between the control and experiment groups in terms of creativity. In the post-test, the calculated t with the degree-of-freedom of 238 is bigger than the t of table at the significance level of 0.01. therefore, it can be stated with a confidence level of 0.099 that there is a significant difference between the control and experiment groups in terms of creativity.

4.2. The second hypotheses

The application of the methods of creative teaching has a significant effect on the mental fluidity of the 6th grade students of the primary schools of Mazandaran province.

Table 2. the average of the scores of the pre-test and post-test level of the control and experiment groups in the second hypotheses (fluidity)

سطح معناداری	T محاسبه شده	درجه ی آزادی	انحراف معیار	تعداد	میانگین	گروه	آزمون
/۰.۱	/۰.۱۳۲	۲۳۸	۴/۳	۱۲۰	۱۷/۲۷	گواه	پیش
			۴/۱			۱۲۰	۱۸/۰۱
/۰.۱	۱۱/۶۱۰	۲۳۸	۴/۶	۱۲۰	۱۹/۲۱	گواه	پس
			۱۱/۰۱			۱۲۰	۳۱/۲۲

The analysis of the data of table 2 displays that the computed t of /0.132 in the pre-test is smaller than the t of table with a degree-of-freedom of 238 in the significance level of 0/01. it can be stated, with a confidence level of 0.099 that there is no significant difference between the experiment and control groups in terms of mental fluidity. The computed t in the post –test is bigger than the t of table with a degree-of-freedom of 238 at the significance level of 0.01. it can be stated, with a confidence level of 0.099 that there is a significant difference between the control and experiment groups in terms of mental fluidity.

4.3.The third hypotheses

The application of the methods of creative teaching has a significant impact on the mind flexibility of the students of the 6th grade of the primary schools of Mazandaran province.

Table 3. the average of the scores of the pre-test and post-test level of the control and experiment groups in the third hypotheses (flexibility)

سطح معناداری	T محاسبه شده	درجه ی آزادی	انحراف معیار	تعداد	میانگین	گروه	آزمون
/۰.۱	/۰.۲۰	۲۳۸	۴/۰.۸	۱۲۰	۱۵/۰.۸	گواه	پیش
			۴/۰.۱			۱۲۰	۱۵/۰.۱
/۰.۱	۱۰/۹۱	۲۳۸	۳/۶۵	۱۲۰	۱۵/۱۹	گواه	پس
			۹/۱۴			۱۲۰	۲۴/۳۹

Analyzing the data of table 3 displays that the computed t of /0.20 in the pre-test is smaller than the t of table with a degree-of-freedom of 238 at the significance level of 0.01. it can be stated, with a significance level of 0.099 that there is no significant difference between the control and experiment groups in terms of mental flexibility. The computed t at the post-test is bigger than the t of table with a degree-of-freedom of 238 at the significance level of 0.01. it can be stated, with a confidence level of 0.099 that there is a significant difference between the control and experiment groups in terms of mental flexibility.

4.4.The fourth hypotheses

The application of the methods of creative teaching has a significant impact on the mental originality of the students of the 6th grade of the primary schools of Mazandaran province.

Table 4. the average of the scores of the pre-test and post-test level of the control and experiment groups in the fourth hypotheses (originality)

آزمون	گروه	میانگین	تعداد	انحراف معیار	درجه ی آزادی	آ محاسبه شده	سطح معناداری
پیش آزمون	گواه	۱۸/۵۴	۱۲۰	۷/۳۲	۲۳۸	.۲۵۵	.۱
	آزمایش	۱۸/۷۵	۱۲۰	۳/۲۹			
پس آزمون	گواه	۱۸/۳۲	۱۲۰	۷/۶۳	۲۳۸	۲۱/۶۱	.۱
	آزمایش	۱۸/۱۶	۱۲۰	۱۶/۲۱			

Analyzing the data of table 4 displays that the computed t of 0.255 in the pre-test is smaller than the t of table with a degree-of-freedom of 238 at the significance level of 0.01. it can be stated, with a significance level of 0.099 that there is no significant difference between the control and experiment groups in terms of mental originality. The computed t at the post-test is bigger than the t of table with a degree-of-freedom of 238 at the significance level of 0.01. it can be stated, with a confidence level of 0.099 that there is a significant difference between the control and experiment groups in terms of mental originality.

4.5. The fifth hypotheses

The application of the methods of creative teaching has a significant impact on the mental extension of the students of the 6th grade of the primary schools of Mazandaran province.

Table 5. the average of the scores of the pre-test and post-test level of the control and experiment groups in the fifth hypotheses (extension)

آزمون	گروه	میانگین	تعداد	انحراف معیار	درجه ی آزادی	آ محاسبه شده	سطح معناداری
پیش آزمون	گواه	۶۱/۶۹	۱۲۰	۲۰/۶۱	۲۳۸	.۳	.۱
	آزمایش	۶۲/۰۵	۱۲۰	۱۷/۱۹			
پس آزمون	گواه	۶۸/۷۱	۱۲۰	۲۳/۳۰	۲۳۸	۱۰/۶۶	.۱
	آزمایش	۱۱۰/۶۱	۱۲۰	۳۶/۴۳			

Analyzing the data of table 4 displays that the computed t of 0.03 in the pre-test is smaller than the t of table with a degree-of-freedom of 238 at the significance level of 0.01. it can be stated, with a significance level of 0.099 that there is no significant difference between the control and experiment groups in terms of mental extension. The computed t at the post-test is bigger than the t of table with a degree-of-freedom of 238 at the significance level of 0.01. it can be stated, with a confidence level of 0.099 that there is a significant difference between the control and experiment groups in terms of mental extension.

5. Discussion and conclusion

The results obtained from this research indicated that using the methods of creative teaching has caused an increase in the creativity of students. It was proven to be significant between the control and experiment groups. Therefore, this research is consistent with the results of the researches by Bognar and IbraKovich (2009), Afshar Kohan (2010) Sharifi and Davari (2009).

The results obtained from this research indicate that the post-test scores of the control and experiment groups are different in terms of fluidity, flexibility, originality and extension and the hypotheses were confirmed. The findings of the present research and other researches named display the efficiency of the methods of creative teaching and using such techniques as problem-solving, rhetoric, brainstorming and the like on the creativity of students.

In this research, teachers were asked to use the methods and techniques of creativity in teaching various subjects and not to suffice only one hour of creativity per week. For example, they were asked to apply the compulsory communication method and rhetoric in composition training and thinking over various problems.

The statements of teachers were indicative of the attraction and well-being nature of education and the high motivation of students to participate in class and to get involved in educational concepts and problems.

In terms of the first hypotheses of the research, it can be stated, regarding the results, that the application of the methods of creative teaching has an impact on the creativity of students.

In terms of the second hypotheses of the research, it can be stated, regarding the results, that the application of the methods of creative teaching has an impact on the mental fluidity of students and the mental fluidity of students whose teachers applied the methods of creative teaching was higher than the mental fluidity of students of control group. In terms of the third hypotheses of the research, it can be stated, regarding the results, that the application of the methods of creative teaching has an impact on the mental flexibility of students and the mental flexibility of students whose teachers applied the methods of creative teaching was higher than the mental flexibility of students of control group. In terms of the fourth hypotheses of the research, it can be stated, regarding the results, that the application of the methods of creative teaching has an impact on the mental originality of students and the mental originality of students whose teachers applied the methods of creative teaching was higher than the mental originality of students of control group. In terms of the fifth hypotheses of the research, it can be stated, regarding the results, that the application of the methods of creative teaching has an impact on the mental extension of students and the mental extension of students whose teachers applied the methods of creative teaching was higher than the mental originality of students of control group. Totally, the results of the research indicated that the techniques of creativity, such as problem-solving, rhetoric, brainstorming are suitable methods for fluidity stimulation, flexibility and mental extension.

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