The Effect of Education and Educational Sciences on the Creativity and Social Adjustment of Students in District 4 of Tehran

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ABSTRACT

One of the most beautiful features of man is the power of creativity. Due to this feature, human beings can create their idealistic goal and develop their abilities. The aim of this study was to investigate the effect of education and educational sciences on the creativity and social adjustment of students in district 4 of Tehran. The research method was experimental with three experimental groups and one control group. A posttest test was done on all three groups. The statistical population of this research was elementary school students in district 4 of Tehran and the statistical sample included four groups of 15 people. In this research, the Torrance Test of Creative Thinking and researcher-made questionnaire were used. The results showed that creativity training had a positive effect on creative performance and social adjustment of students. The effect of role playing, illustration and story writing on student performance has been significant. Also, creativity and social adjustment were significantly different between the educational groups of story writing, illustration and role playing and the control group.

Key words: Educational Science, Education, Creativity, Social Adjustment, Students

I. INTRODUCTION

From the beginning of the twentieth century, there has been a profound and widespread transformation in human societies. The level of education and training has exceeded the expectation, and the scientific and technical progress has astonished the human mind. From the beginning, this progress has been accompanied by a fundamental defect. When it was expected that in the dream age of the followers of modernity we will reach prosperity, we found ourselves among the conflicts and various misunderstandings. According to many scholars, these contradictions cannot be solved with the help of scientific skills, because this requires the acquisition of social skills; and many of our problems are not in the realm of things, but in the realm of human beings (Elton Mayo, 1924).

One of the most beautiful features of man is the power of creativity. Because of this, human beings can create their idealistic goals and develop their

abilities. Creativity is defined as the ability of individuals to generate new thoughts or achievements of any kind. Creativity has a direct relationship to the imagination or visualization ability, and is the process of finding new ways to do things better. Creativity provides the ability to present new solutions to the problems and provides new ideas and designs for new products and services and their continuity after the absence of those phenomena (ShoariNejad, 2001).

Torrance (1968) believes that human beings need to develop and use the creative power of children for survival, because human creativity is its most important weapon and can withstand the stresses of daily life and eliminate the stresses caused by extraordinary things (Hosseini, 2009). He assumes creativity as a structure that includes four elements of fluidity, flexibility, originality, and skill. Creativity fostering methods include:1)methods based on the modification and correction of cognitive features, 2) brainstorming method, 3) problem solving method, 4) method of increase of self-concept and self-experession, 5) technique of Six Thinking Hats, 6) Creative Pause technique, 7) inversion problem and 8) SCAMPER technique (Saif, 2001).

Today, discussion of the different interests of education and training has been seriously and properly addressed in the agenda of teachers and administrators of educational systems. Look at the basic skills of reading, writing, and counting; Of course, everyone is interested in these skills, but there is an important distinction between the interest in writing, the type that is used in experiences, and the higher level intellectual interests that follow the writing for critique of ideas and the fostering of creativity.

With the advent of knowledge and technology and the widespread flow of information, today our society needs to learn skills that can keep pace with the development of science and technology.The goal should be to cultivate people who can face the problems with a creative brain and solve them.In such a way that humans can communicate well and utilize collective knowledge and generate new ideas to eliminate problems.Human beings are sensitive to each other's destiny and they are trying to grow each other and ultimately lead to a flow of knowledge and experience between them, which will be the cause of innovation and creativity.

In the common theory of education, the teacher is the controller of educational and training processes.Knowledge and skill are transmitted to the learnerby the teacher directly, and in this context, learner is the passive receiver of the information.

Using multidimensional methods, immersing children in social processes and utilizing group and participatory training methods will greatly help children to do not think in a unilateral way and to avoid cognitive egocentrism. The emphasis is on the teaching of closed concepts, the explanation of differentmanifestations of the unit truth in amethodological pluralismand combining the content of various lessons to achieve a common theory. The interest that has been repressed in common education has led to a cognitive and moral starvation in a large part of society.For example, in the science lesson,children understand the relationship between clouds and rain; in Farsi lesson, they read the story about the uncle's cow that defends Mary against the wolf. In this way, nature and man are aligned. In math course, they understand the order of the equation. Also, in social science lesson, the students learn the concepts of cooperation. If learners can establish a relationship among these perceptions and achieve a multidimensional approach and infer the unity from the plurality, then there will be a place for propagating education, and systematic data will be provided to support this process.

The ideals of education are the ultimate objective of the entire education system. These objectives are expressed in general terms and include concepts of human, social and cultural values. Objective such as the cultivation of human qualities and virtues, self-identification, identification of others, efficiency, citizenship and the like are among the ideals and general goals of education.

The task of the teacher isto teach the exploration techniques and, more importantly, to emphasize on fostering the spirit of research and encouraging students to think about it. The teacher must be careful that the problem based learning and problem-solving process are not considered as the main objectives, in order to creates a situation where learners tend to find the solution by creating a hypothesis, interpreting data, and making structures that seem to be innovative ways in interpretation of reality (Bruce, 1980).

II. REVIEW OF LITERATURE

The result of an article titled "the impact of the artistic environment on students' creativity" is as follows: The results of quantitative tests indicate that the presence of students in the artistic environment has increased their creativity; hence a

significant relationship between classroom artistic atmosphere and creativity can be predicted.The research results explicitly emphasize that art should be used as a decisive factor in improving the quality of classrooms (MahdaviNejad et al, 2013).

In an article titled "ways of nurturing creativity", specific patterns are presented to develop creativity: "Searching for dissimilarities, prediction, searching for others' critique, analyzing issues in detail, using allegory, using the group to increase the production of creative ideas, stopping on the problem for a while, then returning to it and trying to communicate" (ShooaeKazemi, 2005).

In an article titled "identifying the effective factors in developing the creativity of secondary school students from the perspectives of teachers, managers and educational experts in Department of Education district 6, Tehran province, Iran", five factors have been considered as important ways of fostering creativity: 1. Self-directed education, 2. Attention to emotional aspect of learning and teaching, 3. Social independence of the family 4. Foster the students'self-assessment, 5. Families' effortto give students autonomy(Farajollahi et al, 2010).

It should be noted that most developed and developing countries pay more attention to education.Education is the foundation for a country development. Spending on education is a long term investment.

Methods and Techniques for Teaching Creativity
There are several factors that prevent the development of creativity in students.Therefore, these factors should be identified and resolved.Among these factors are the fear of failure and criticism, the lack of self-esteem, the students' desire for consistency, andthe lack of concentration. "Although creativity is an innate trait, its expression, growth and development depend on various individual and social factors and overcoming individual and social barriers" (Roshan et al, 2008).Therefore, the first step to take is toidentify and remove the barriers to the emergence and growth of creativity. The second step is the use of several different methods that are as follows:

1. Do not limit the students' experiences to specific situations
Encourage students to do strange things.Ask questions that inspire students' divergent thinking in order to reach the answers.Questions that come with why, how, describe, and explain, not where, who, when, and yes and no.Ask questions that have multiple answers.

2. Validate the novel and unusual ideas and questions of students
Encourage students to ask various questions. Do not try to stop their thinking and asking questions for fear of that you are not able to answer. Tell them explicitly "I do not know".And guide them to investigate the question andanswer their own questions. Respecting students increases self-esteem and increases their sense of security. Never crush a student to give him an answer or false idea. Never blame a student for giving wrong answer and idea.

3. Give students an opportunity to learn
One of the features of creative people is having personal autonomy and ultimately the ability to find a solution to the problem. S/he likes to solve a problem alone, even in some cases, as soon as the problem is solved, it tries to find another solution to that problem. It is necessary that the teacher give students an opportunity to think and find the solution to the problem. To the extent possible, prevent students to recite the contents. Believe that students are also interested in learning by themselves not to teach by another person.

4. Pay attention to students based on their individual differences
God has not created all human beings alike, and has created each one differently and for a particular work. Based on the individual differences, God expect responsibility and response. First, every student is a human being, and deserves to be honored and respected because s/he is acreature of God.Secondly, the teacher needs to have enough information about individual differences and how to deal with them based on their individual differences, rather than disappoint the students due to lack of sufficient information.It was mentioned above that if every student received the kindness and reverence from their teacher, they feel a sense of dignity, and feel responsibility for the teacher's demands- the production of new ideas.

5. Introducestudents to the creative behaviors in order to patternthese behaviors
Fifth gradeelementary students showed creative behaviors, after watching the creative behaviors that was shown in a movie or by their teacher" (Saif, 2008). It is obvious that patterning has a significant effect on the elementary students.The minds of elementary school students are like a white paper, wherever it is written, will remain forever. It is up to the teachers to introduce creative

people to students and explain their success to students in order to encourage students to make a special effort and receive that position.Elementary students try to pattern their lives after heroes. So try to introduce the creative and innovative people to them as the production heroes.

6. Usethe teaching methods to increase the level of creativity

There are a number of teaching methods that if teachers use them skillfully and with knowledge in an appropriate condition, they will certainly be successful in raising the level of creativity of students.

Methods such as thought showers sometimes referred to as brainstorming, masterminding, etc., have a great role in generating creative ideas of people. Or John Dewey's Problem Solving Method is a very effective way for developing students' creativity.The significance of this method is so great that it is addressed in the preface to the six science books of the elementary school. The project method is one of these methods that is more in line with the problem-solving method or research skills.

7. Pay attention to art and Farsi essay courses

Art and Farsi essay writing make students imaginable. The more students' imagination is, the more they will develop in creativity. Art and Farsi essay writing promote creativity in students. "Through their artistic activities, students cab better notice themselves, the world and the creator of the universe, develop their sense of aesthetics, their senses, thinking; therefore their senses, thinking, imagination and intelligence are also strengthened, their inner talents and creativity flourish (RadPoor et al, 2006).

III. METHODOLOGY

The research method was quasi-experimental with three experimental groups and one control group and a posttest test design in all three groups.The statistical population of the study consisted of elementary school students of district 4 of Tehran, Iran, and the sample size consisted of four groups (15 people in each group).In general, 60 students were selected using random sampling method.In this research, the Torrance Test of Creative Thinking and researcher-made questionnaire were used to examine the variables.In this research, two methods of role play, illustration and story writing, each for six sessions, were designed to teach creativity tothe students of experimental group. Posttest was taken from all groups, while the control group did not receive any intervention. These 60 people were

randomly assigned to 4 groups. The number of people in each group is 15, which include:

1. The first group that was taught how to play a role.
2. The second group that was trained in illustration.
3. The third group that was trained in story writing.
4. The fourth group did not receive any training.

Torrance Test of Creative Thinking

One of the most famous tests of creativity is the Torrance test, which contains 60 questions.By studying the available resources, the most important aspects of individual creativity related to the students were extracted.Male students were divided into four groups: the first three groups were trained. The fourth group did not receive any training.

Social Adjustment Questionnaire

The questionnaire was made by researcher with 33 items. The answers are in a range of 1 to 10. It was completed with the help of parents and based on the ability of each student. The lowest score for each person is 33 and the highest score is 330.Face and content validity was assessed. Also, through the simultaneous validation, the scoreofthis questionnaire was equal to the creativity questionnaire score, i.e. 0.37 that was significant at the level of $p > 0.05$. For the reliability, the Cronbach's alpha value was 0.82.

IV. FINDINGS

Descriptive findings are given in Table (1).One-way ANOVA results in Table (2) show that social adjustment and creativity aresignificantly different between educational groups of story writing, illustration and role playing and control group ($p < 0.001$). Bonferroni post hoc tests were used to track the significant differences in variance analysis.Table (3) shows that creativity and social adjustment have significantly increased in three groups of story writing, illustration and role playingcompared to the control group.

Table 1: Mean and standard deviations

Variables	Groups	Mean	Standard deviations
Creativity	Control	71.52	10.51
	Story writing	78.90	3.61
	Role playing	83	12.35
	Illustration	84.85	16.48
Social	Control	34.23	8.43

adjustment	Story writing	39.44	6.72
	Role playing	41.51	7.21
	Illustration	42.91	8.71

Table 2: indicators of One-Way ANOVA in the subjects of experimental groups of story writing, illustration, role playing and control group in terms of creativity and social adjustment

Source	Dependent variable	Sum of squares	df	Mean of squares	F	P	Effect size
Group	Creativity	11503.02	4	2875.75	231.88	0.001	0.47
	Social adjustment	9250.36	4	2312.45	204.35	0.001	0.42

Table 3: Bonferroni pairwise comparison test

Dependent variable	Groups	Mean	Difference between groups	Control group	Story writing	Illustration
Creativity	Control	71.51	Control	-		
	Story writing	78.92	Story writing	7.39	-	
	Illustration	83	Illustration	11.45	4.05	-
	Role playing	84.84	Role playing	13.30	5.91	1.84
Social adjustment	Control	34.22	Control	-		
	Story writing	39.45	Story writing	5.22	-	
	Illustration	41.50	Illustration	7.26	2.05	-
	Role playing	42.91	Role playing	8.70	3.45	1.40

The position and role of teachers, the way and duration of their presence, the way of communication between teacher and students, andmethods and tools for providing training programs are effective factors on training the creativity.Family and teachers contribute to create proper habits in children. In fact, schools should offer creativity education as part of their educational content, and teachers, parents and others are encouraged to contribute to promote school creativity programs.Another point to be considered is that teachers should have enough knowledge of the stages of child development, the principles of creativity, the process of creation andthe process of communication and teaching methods in order to teach creativity to children.

The findings of the present study showed that there is a significant difference between the creativity of educational groups (story writing, illustration and role playing) and control group. In explaining these findings, it can be acknowledged that in healthy schools where the teacher works continuously and the principles of creativity are respected, students not only have more ability to learn their lessons, but also learn creativity that will help them throughout their lives to prevent discomfort, problems and social and educational harms. Correct teaching of creativity in schools by trained teachers improves students' awareness of creativity promotion and problem prevention, increasesaccess to correct information on creativity, healthy behavior, ability to communicate with others,the ability to make decisions and determines goals in life.Nowadays, in order to assess the state of creativity, the students' creative performance is given a higher value. Studies have shown that teaching creativity in schools can play a significant role in this regard.For this reason, teaching creativity in schools is one of the main priorities in children and community education programs.

Another finding of the research is that there is a significant difference between the experimental groups of story writing, illustration and role play with the control group in terms of social adjustment. Estimates show that in the case of equal conditions, students who are trained have better individual creativity than students who have not been trained.Moderated means show that after teaching creativity, the trained students had better social adjustment. So the research hypothesis is accepted, i.e. there is a significant difference between the social adjustment of educational groups (story writing, illustration and role playing) and control group.

V. CONCLUSION

The results show that there is a significant relationship between the creativity of experimental groups (story writing, illustration and role playing)and control group.Also, the results show that there is a significant relationship between the social adjustments of experimental groups (story writing, illustration and role playing) and control group.Given the general conclusion of this study that teaching creativity by school has an impact on creative performance and social adjustment of students, it is suggested that this project be implemented in schools.

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