The Effect of Creative Drama on Student Achievement in The Course of Information Technologies[1]

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Abstract

The purpose of this study is to determine the effect of creative drama on student achievement in the Information Technologies course. The study was carried out for the unit "Tomorrow's Technology" which is the first unit of Information Technologies course. For this study, 89 sixth grade students were selected from primary school in academic year of 2012-2013. The pre- and post-test control group research model was used in this study. The experimental and control group randomly formed. Students were randomized to three groups: experimental 1 group (28 students), experimental 2 group (30 students) and control group (31 students). In experimental 1 group, course were lectured using creative drama method. In experimental 2 group, course were lectured with computer based, the course were lectured by using only the Information Technologies course curriculum in control group. An achievement test used to collect data were developed by the researcher. According to the result of the study, it was seen that using Creative Drama in Information Technologies Course created a positive effect on students' achievement. Considering these result, some suggestions were presented.

Keywords: creative drama, achievement, information technologies course

1. Introduction

Education is the sum of all activities that initially assists the individuals to know themselves, then prepare them for the future to establish a safe ground for living in harmony with the others. By virtue of its characteristics such as aiding a transformation in the emotional and intellectual lives of people as well as guiding and controlling individuals' actions and conducts, education stands out as a critically substantial phenomenon (Çağlayan, 2005). Thereby any individual is expected to play active role in this major phenomenon. Active involvement in education necessitates a person's full involvement with learning process by utilizing all his/her senses. People do not forget the things learnt through experience and they can transfer their learning to previously grasped data (Karadağ & Çalışkan, 2008). One of the methods enabling active involvement of people with learning and teaching is creative drama.

Creative drama, in its broadest sense, creats animations with a group on the basis of experiences and accumulations of group members by making use of techniques such as improvisation and role-play in any given subject. San (1989), who is one of the leaders of creative drama in Turkey, defines creative drama such; "With no pre-written text, actions and impromptu animations that the participants create on the basis of their own creative discoveries, authentic ideas, subjective memoirs and previous knowledge." According to Adiguzel (2006a), creative drama in education animates any subject by using improvisation, role playing and the life experiences of a group.

Çoruh (1950) asserts that dramatic shows and theatrical actions & behaviors that are transposed to meet the spiritual and physical changes children and youngsters demonstrate at various ages, shall provide assistance in their learning process. Çilenti (1979) similarly argues that by utilizing such activities:

- Complex situations become better understandable.

- Too big or too small events exceeding the perceptive limits of sensory organs can be better perceived and grasped.

- Events that are, due to time and space limits, unreachable can be examined more easily.

- The designed abstract and theoretical events and objects can be better understood.
- Students' communication skills like attention, speech, listening, comprehension, perception and interpretation can be refined.
- Creativity skills of students are improved.
- It helps to heal introvert, shy and self demeaning students.
- The habit to work collaboratively is instilled.

The gravity of creative drama has been enhancing each day. Currently creative drama activities have been conducted in all stages of education ranging from pre-school period to undergraduate and graduate studies. In primary education level, creative drama activities are available in science, mathematics and social sciences courses (Çokadar & Yılmaz, 2010; Çam, Özkan, & Avinç, 2009; Gencel, 2009; Oğur & Kılıç 2005; Sarıçoban 2004; Selmanoğlu, 2009; Şengün, & İskenderoğlu, 2010; Ruso, & Topdal, 2013; Türkkuşu, 2008). Nonetheless there exist almost no creative drama activities in Information Technologies (IT) course curriculum. However in the vision of Information Technologies course curriculum developed as of 2007-2008 by Ministry of National Education, Head Council of Education and Morality in Turkey, it has been underlined that raising individuals with high-level of IT education is a requirement to keep up with modern age. It has also been emphasized that to ensure operating effectively in work environments that all change in line with technological developments, there are certain skills required such as ability to work in a team, refined communication skills, ability to manage unforeseen situations, think critically and make proper decisions. To gain such capabilities, utilizing creative drama method shall be the most effective aid.

Since IT is basically a domain that can be learnt best through practice and experience, in IT course program, starting from basic operations and concepts it is aimed to lead students to find project-based solutions for real-life problems by working in groups. Creative drama is, as emphasized by San (2003) and Adıgüzel (2006b), a cluster activity manipulating techniques such as impromptu, role play, theater or drama; hence without a group, creative drama cannot be performed. In that respect as well, creative drama can be viewed as an applicable method for IT course.

The main objective of IT course is to ensure that students can provide solutions against unexpected situations and applications and adapt to new conditions with minimum discomfort. Drama practices, by means of benefits provided, play enormous role in the participation of students into society as fully equipped individuals. Such individuals can be motivated into their works, cooperate with their workmates to seek and produce joint solutions to the problems. They generate novel ideas and adapt to different situations easily. Such acquisitions of drama likewise serve to the key objective of IT course.

Aside from such positive features of IT, it also exhibits certain negative impacts that can be listed as increasing amounts of internet overuse and computer game addiction which collectively undermine the user's socialization skills. Conducted researches (Şendağ & Odabaşı, 2007) have unveiled that people who spend considerable amount of time on computer demonstrate social adaptation problems. As the time spent on computer increases the individual exhibits weaker social adaptation skills. In reality sixth grade (12-13 years old) group students composing the research population belong to a social stage in which they should be willing to spend time with peers rather than parents, hungry for new insights, full of life and zeal. For the students in this age group as well, socialization is a learning process in which they grasp an idea about the role and demands that the society expects them to possess (Akfirat, 2004; Bolton, 1985).

The aims of using creative drama activities in education are not restricted only developing social and individual skills. The effects of creative drama activities on achievement of students also have been studied by many researchers from various fields. In those studies creative drama activities are found to increase the students' achievement on geography (Köseoğlu & Ünlü, 2006), humanities (Karadağ, Korkmaz & Çalışkan, 2007), science and technology (Oğur & Kılıç, 2005; Doğru, Yilmaz, Kalay & Gençosman, 2010) and Turkish language (Şimşek, Topal, Maden & Şahin, 2010) courses. In order to reveal the students' inner potential teachers have to develop new methods and approaches. With this important direction, this study has probed into the achievement effects of creative drama method which shall, in the teaching of "Tomorrow's Technology" which is a unit of IT of primary school sixth grade, by boosting student's self esteem and confidence, enable their socialization and develop their communication & problem solving skills.

2. Methodology

2.1 Research Design

In present study, a pre-test/post-test experimental design with control group (Karasar, 2005) was utilized to uncover the effects of methods such as computer-based learning, creative drama and IT course curriculums on students' achievement level.

2.2 Research Sample

Since there was no possibility to make a generalization of universe in this research, a sample research group was used. Sönmez (2005) emphasizes that researchers may prefer universe-sample selection in descriptive studies, while this does not apply to experimental studies. Research group consisted of 89 sixth grade students randomly were chosen from primary school in academic year of 2012–2013. Socio-demographic structures of the students in the classes and the achievement levels were similar. Information technologies teacher and students were volunteered to participate in the study.

2.3 Treatment

In the control group composed of 31 students, teaching of "Tomorrow's Technology" was conducted with IT course curriculum. For experimental 2 group, courses was given to 30 students in Information Technologies classroom. A computer was assigned to each student. Students utilized prepared material, worked individually and received guidance from teacher when they need help. In experimental 1 group, creative drama method was practiced with 28 students.

In this research, the program integrated with creative drama utilized in experimental 1 group was prepared together with the researcher and a certified drama trainer approved by the Ministry of National Education in accordance with the acquisitions in coursebook. In experimental 1, experimental 2 and control group courses were lectured within the same weeks and days. As the learning acquisitions within the scope of research were examined it was structured such: "It draws conclusions on the potential impact of IT in the future and its potential development."

2.4 Example of a Drama Lesson

In planning creative drama actions suggested creative drama components like; preparation, play, improvisation, relaxation; drama techniques, dramatic moment, pretending, teacher & student roles, group works and playlike processes have been accounted. Below is a practiced drama activity.

Sample

Objectives: Familiarization with modern communication tools

Montage Room: Information Technologies classroom

Contents: Modern communication tools are introduced. Plays are prepared.

Role of the students: Any given communication tool

Role of the teacher: Drama Leader

Preparation

Warm-up: Music playing on the background, students walk freely around class.

Instructions:

➢ Walk around each corner of the classroom pacing with the rhythm of music. Hear the sound only.

➢ Freeze when the music stops, use any given communication tool (animation). Share your feelings, what you have touched and done.

➢ Select a different tool each time.

➢ Now freeze wherever you are once the music stops. "Which communication tool are you now?"

Play Instructions:

➢ Now let everyone imagine there is a tool in front of you.

➢ Inspect the tool in front of you. Who uses this tool? Why has this tool been developed? What qualities do you exhibit? How further can you be developed? and similar open-ended questions enable the students to contemplate more.

➢ Who would like to share his/her ideas with me?

➢ Would you like to share with me any interesting experience you had earlier?

Improvisation:

➢ Those with the same tools gather in the same groups.

➢ These groups create a scene with these tools.

➢ Group questions: For what purpose this communication tool is used? Why do these people communicate? What do they feel when they communicate? are some of the warm-up questions.

> ➤ The groups are monitored individually.

Relaxation:

> ➤ The feelings of students after this cooperative work are communicated.
> ➤ Walking while background music playing.
> ➤ Muscle relaxation movements.

2.5 Data Collection

In present study data were collected via achievement test. The first format of the achievement test consisting of 23 multiple-choice questions were prepared. To conduct validity check of achievement test, assistance was taken from the Turkish teacher and IT teacher in the same school and an educational sciences specialist employed in Fırat University. In order to evaluate the validity and reliability of the achievement test, achievement test was delivered as a pilot study to 43 sixth grade students who exhibit similar features with research group and who succeeded previously in this course. 3 questions in the test were excluded from the test since they exhibited low distinctiveness in item analysis. Upon item analysis three questions were excluded and the final format included 20 multiple-choice questions. In order to calculate the reliability of the test, the Kuder Richardson-20 (KR-20) value was calculated. For the final format of achievement test, reliability coefficient was found to be 0.70.

2.6 Data Analysis

Specify the research design in the Method section. Were subjects placed into conditions that were manipulated, or were they observed naturalistically? If multiple conditions were created, how were participants assigned to conditions, through random assignment or some other selection mechanism? Was the study conducted as a between-subjects or a within-subject design?

3. Findings

ANOVA was performed in order to determine whether statistically significant differences existed between the groups (experimental 1, experimental 2, control) with respect to the pre-information. Results were illustrated in Table 1. According to Table 1, no significant difference existed among the pre-test scores of the groups (p= 0.257). This finding shows that groups are homogeneous with respect to pre-information.

Table 1. Results of one way ANOVA on pre-test Scores

	Sum of Squares	Sd	Mean Square	F	p
Between Groups	357.371	2	178.686	1.381	.257
Within Groups	11129.101	86	129.408		
Total	11486.472	88			

For the purpose of reveal whether significant differences exit between pre-test and post-test scores of groups, paired sample t-test was conducted. Arithmetic means, standard deviation and results of t-test computed with respect to pre-test and post-test scores of groups were illustrated in Table 2.

Table 2. Results of paired sample t-test on pre-test and post-test Scores for Control Group

Groups	N	$\bar{X}$	S	Sd	t	P
Control Group pre-test	31	32.16	9.34	30	-13.27	.000
Control Group post-test	31	40.9	8.56			
Experimental 2 Group pre-test	30	36.8	11.59	29	-16.79	.000
Experimental 2 Group post-test	30	51.17	10.06			
Experimental 1 Group pre-test	28	35.68	13.08	27	-14.23	.000
Experimental 1 Group post-test	28	66.93	12.81			

As shown in Table 2, a significant difference was found between the pre-test and post-test scores of groups. The post-test arithmetic mean was found 40.9 while the pre-test arithmetic mean of control group was 32.16. Similarly, while the pre-test academic mean of the students' in experimental 2 group was 36.8, post-test arithmetic mean calculated 51.17. The arithmetic mean for the experimental 1 group was found 35.68 for the pre-test and 66.93 for the post-test. Paired sample t-test results revealed that each group improved in regard to their post-test scores.In other words, these three method was effective on learning. To reveal the difference of the main effect of the methods between groups,

ANCOVA was conducted with means of the post-test scores as the dependent variables and the pre-test scores as the covariates.

For the purpose of finding whether the differences between the arithmetic means of groups in the post-test were statistically significant, analysis of covariance was conducted. The test results of ANCOVA were illustrated in Table 3.

Table 3. Results of ANCOVA on post-test scores with pre-test scores as the covariates

Source of Variance	Sum of Squares	Sd	Mean Square	F	p
Pre-test	5756.21	1	5756.21	128.469	.000
Group	8395.10	2	4197.55	93.68	.000
Error	3808.52	85	44.81		
Total	265395	89			

According to Table 3, when the pre-test scores of the groups were controlled there appears a statistically significant difference between the post-test score of groups (f2.85= 93.68, p<.001). More specifically, the corrected mean post-test score of the experimental 1 group (X= 64.13) was higher than experimental 2 group (X=50.57) and control group (X=43.13). In that case it was concluded that creative drama method has significant and positive effects on the student achievement.

4. Discussions and Suggestions

In this study conducted to explore the effect of creative drama method on students' achievement level in teaching "Tomorrow's Technology" which is a unit of IT primary school sixth grade it was designated that there is significance difference in favor of creative drama method. The results obtained from the study are positive. This finding points out that, creative drama method is, compared to both computer-based learning method and other methods present in IT course curriculum, a further effective method on a set of learning experiences. The key explanation is that once students take active role in learning process permanent learning is possible which echoes the findings obtained in (Çam et al., 2009; Timuçin, 2009; Adıgüzel & Timuçin, 2010; Başçı & Gündoğdu, 2011; Atalay & Şahin, 2012) research.

In experimental 1 group where creative drama is employed it was detected that compared to experimental 2 and control group, students interact with each other more intensely, listen to one another more diligently, act in better harmony, exhibit more joyful and enthusiastic behavior. In the studies of Erbay & Doğru (2010), as in parallel with this study, it was found that creative drama education had a significant positive effect on the social communication skills of the subject.

To create a further effective learning in primary education IT course curriculum, creative drama activities, which provide considerable benefits, should be integrated. This study can be recreated for different issues in IT course as well as for different grade levels. In 2013 dated IT and Software coursebook; while teaching Importance of Information Technologies on Daily Life, Social and Cultural Benefits, Privacy and Security Dimensions, Ethical and Social Values issues, employing creative drama as a teaching method shall provide outstanding benefits. Particularly in the teaching of programming and algorithm creation which are among the IT course issues students hardly grasp, employing creative drama shall enable to receive better learning outcomes.

Drama is a compulsory subject in primary school education, pre-school education and English language education departments of Faculty of Education. Replicating these departments, in the undergraduate studies of Computer Education and Instructional Technologies (CEIT) Department and other departments in Faculties of Education "Creative Drama and its Applications" should be integrated to the curriculum as a compulsory or elective subject.

For future studies, the advantages of creative drama in education can be explained to teachers through various seminars and work-shop (Lee, Cawthon & Dawson, 2013). In order to widespread the use of creative drama method in different courses, as suggested by Sungurtekin, Sezer, Kahraman, & Sadioğlu (2009), in service training seminars should be organized not only to class teachers but also to branch teachers. Hence it shall be feasible for teachers from different branches to experience creative drama collectively. During their own classes, they could give place to creative drama activities for the purposes of enhancing the efficiency and quality of education.

It matters vitally that schools contain all the required course materials so that students can receive optimum efficiency while learning a particular topic. As is the case in all the other courses, there has to be a suitable working environment to meet creative drama activities with the key objectives. To achieve that mission, as suggested by Başçı & Gündoğdu (2011), drama rooms in schools must be built to perform creative drama activities and required tools and materials should be catered.

Further research can also be made to determine the views of the teachers who have used creative drama in IT course on the sufficiency of the method and to remove the problems that are likely to occur in practice. However it is suggested that different research studies should be done related to determining the effects of Creative Drama applications on students' gender, parents, socio-economic conditions which they lived. Also their effects on communication, social skills, empathy, self sufficiency, problem behavior and promoting language development should also be investigated. The number of similar studies should be increased to make a contribution to the field.

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