

ORIGINAL PAPER

The Effect of Applying Podcast Multimedia Teaching System on Motivational Achievement and Learning Among the Boy Students

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ABSTRACT

Background: Traditional education classes are no more effective because they are tied to a particular place and time. Podcast complete the deflection of other educational resources. In this study we aimed to address whether utilizing podcast multimedia training system has an effect on the motivational achievement and students learning of the Arabic course in high school. **Methods:** In this practical-purposed, descriptive and quasi-experimental study, pre- and post-test method in control and experiment groups was used. Researchers used simple random sampling method to form the groups. **Results:** The results showed the normal distribution of data according to the value of z (0.09) in the pre- and post-tests in both control and experiment groups. Therefore, the data distribution was normal ($P > 0.925$). Significant differences between experimental and control groups in terms of academic level were not observed in the pre-test. There was no significant difference between the motivational achievement of education in post-test of control and experiment group ($p > 0.89$). **Conclusion:** The results showed that teaching with podcast multimedia systems significantly increased learning of Arabic in the high school level. But of motivation reinforcement between traditional method and system for multimedia podcasts, showed no significant differences. Each variety of multimedia techniques can be beneficial for a specific course. Therefore, more studies on the effectiveness of podcast method in different courses to determine its effects are necessary.

Key words: Podcast, Multimedia, Motivational, Learning

1. INTRODUCTION

In the last decades, traditional learning approaches with the advent of modern technologies of communication and information, such as multimedia, cross media and telecommunications, has undergone major changes (1). Traditional education classes are no more effective because they are tied to a particular place and time and they cannot provide an appropriate context for learning. Printed text also creates problems because of its own limitations. However, educational software, providing a rich resource, can be an opportunity for growth in learning, as well as creating collaborative environments that allow students and teachers to search for relevant sources, and to study a variety of issues (2). Issues and challenges of contemporary education has gained momentum since two decades ago. Poor quality of education, globalization of education goals, maintaining identity concerns, rising costs, extensive competition and development gap are among this challenges (3).

The use of educational software in learning environments is a convenient way to discover and access to information resources in order to prepare learners for future life. A podcast is a media that transmit messages from the brain of the programmers to the audience. Dissemination of messages in comparison with blogs and online written media is troublesome but relatively simple, rapid, with low cost compared to radio (4).

The development of information and communications technology (ICT) in education programs was an effective and viable step, and was able to provide qualitative changes in the objectives, programs, methods, and practices, hence followed by the effectiveness of education. It is anticipated that with the development of technology, ancient dreams and unsolved problems, such as making functional education, focusing on learners' strengths and needs, institutionalization of student-centered approach and changing role of teachers to guide, and finally giving originality to learning, can be lifelong achieved. If the education is moving in the direction of these developments, using the new features, especially computers, the Internet and educational software, can be a response to students' needs. In Arabic and Quran education, the scientific results and technologies can be utilized; it should not be assumed that the educational multimedia could just be used for teaching and learning empirical or natural science (5).

Research centers are seeking to increase motivation of learners in love to learn and gain more skills in knowledge and understanding, skills, and creative thinking. The emphasis of education and learning in the twenty-first century is focusing on learning rather than teaching. Therefore, there is a need for major change in the formal education lesson plans of the learners. Surely, any changes in programs and efforts to improve the quality require scholarly and wise efforts; and

these programs should be designed and implemented based on a comprehensive approach and systematically thinking (6).

Everyday use of new technologies in teaching and learning process increases motivation and improves academic self-esteem among students. Learners in this new process feel that they require obtaining necessary skills to apply new technologies and they try to obtain them. Thus, the receptors are responsible for their own learning and during training, they receive appropriate attitude, and become an active learner (7, 8).

In the past, Arabic education courses in elementary, junior high, and high school courses focused primarily on the acquisition of reading skills, and did not have a comprehensive program to achieve the meaning of phrases. This reducing of education to what it should have been had numerous damages, which the most important one was preventing education of being meaningful and normal. Due to popular culture, Arabic and Quran students started its education with interest, but after a short time, the learning motivation greatly decreased. This was due to the lack of understanding the meaning of verses and being unable to make a connection with its learning topics. Although in the current education program, the most important goal in high schools is learning how to read Arabic. However, due to the comprehensiveness of Arabic education, with an appropriate method in compliance with students' emotional and mental capacity, attention has been made to other training goals.

Arabic course is included in the high school courses since it has variety of facts about concepts, rules, and procedures on personal life, social affairs, material and intellectual matters that students will deal with throughout their lives. The available education method does not have the ability to provide complete training in the mentioned areas. So, lack of learning of meanings, concepts, and reading is seen. For an effective learning, new information and communication technologies and applying them effectively is essential. Due to children's interest in computers, multimedia, and educational software, the growing use of educational software by teachers and students, and especially the effect of podcast multimedia training system on students' learning especially in elementary school, this study were designed. We aimed to address whether utilizing podcast multimedia training system has an effect on the motivational achievement and students learning of the Arabic course in high school.

2. METHODS

In this practical-purposed, descriptive and quasi-experimental study, pre- and post-test method in control and experiment groups was used. Researchers used simple random sampling method to form the groups. Two schools for girls were chosen. One was chosen for implementing podcast multimedia training system for education and the other for traditional education. With the same method, from each school a high school class was chosen with 30 students in order to perform the podcast multimedia system and traditional education methods. The study population was the entire girl students of high school located in Mazandaran province, Iran.

The experiment group was exposed to podcast multimedia training system, and for the control group, the previous program continued without exposing to any certain variable. Measurements of the dependent variable for both groups were

at the same time under the same conditions.

To collect the data, necessary coordination with the Bureau of Education of this city and the chosen schools was done. After determining the schools, coordination meetings for explaining the program to the school managements and teachers who had the same academic background and personality characteristic (gender, education, work experience and academic and research background) was performed. The pre-test was then conducted (teacher-made test on Arabic courses which was approved by the project teachers and Harter's motivation test). It lasted for a month. At the end of each period, an exam was conducted for both groups on Arabic course. Harter's academic motivation scale was used in the pre-test and post-test. This questionnaire has 33 items. Each item is scored based on Likert 5-item scores (always, often, sometimes, rarely or never) scored 5 to 1, respectively.

To ensure the validity of this study, the questions used in the pre- and post-tests in addition to the approval of the teachers, were also reviewed by 12 professional professors, and its content validity was confirmed. For the reliability of the teacher-made test, split method was used. To calculate the reliability coefficient, the questions used in the pre- and post-test exams of Arabic course were divided into two parts, and students ($n = 20$) were asked to answer them. After running the test, scores in the first half and second half were calculated. Then, the correlation between the two parts was determined. To calculate the reliability coefficient for the whole test, Spearman-Brown formula was used. Collected data were analyzed by SPSS software (version 18, SPSS Inc., Chicago, IL) and statistical tests were performed.

3. RESULTS

The results showed the normal distribution of data according to the value of z (0.09) in the pre- and post-tests in both control and experiment groups. Therefore, the data distribution was normal ($P > 0.925$). Significant differences between experimental and control groups in terms of academic level were not observed in the pre-test. So, at the beginning of the study, both experimental and control groups were similar in terms of Arabic knowledge.

In post-test, the control group received mean score of 16.40 out of 20 (82%); compared to the pre-test with mean score of 13.20 (66%), it had 16% progress. While the experiment group received mean score of 17.73 (88.6%) in the post-test; compared to the pre-test with mean score of 13.13 (65% of the score) it had 23.6% progress.

The results of the motivation measurements in pre- and post-test were almost equal based on Harter's test in control group. The difference between pre- and post-test in terms of changes in motivation rate was less than 1% in 5 options of the questionnaire. The results of the motivation measurements in pre- and post-test in the experiment group showed that the percentage of options "never" or "rarely" decreased, but the frequency of responses to options "sometimes", "often" or "always" increased in the post-test $p > 0.89$ (Table 1).

In the post-test, the frequencies responded to the options below average (never or rarely) in control group were 2-2.85 percent higher than the experimental group. Nevertheless, the frequencies responded to the average and higher options in the experiment group were 0.5 3.5 percent more than the

control group. Comparison of the changing trends of motivation in post-test of both groups showed that the podcast multimedia teaching method had made 0.5-3.5 percent positive changes in students' motivation $P < 0.0001$ (Table 2).

There was no significant difference between the motivational achievement of education in post-test of control and experiment group ($p > 0.89$). Therefore, teaching with multimedia podcast did not increase the motivation in the progress of Arabic course learning and did not have an advantage over the traditional method.

The mean learning score changes of Arabic course was 3.20 in control and 4.60 in experiment group. The amount of calculated t value was 8.28, which was higher than the table t with freedom degree of 28 (2.064). Therefore, the difference between the two groups was significant regarding learning Arabic ($P < 0.0001$). The use of podcast multimedia training system had advantage over the traditional method in students' learning of Arabic in high schools.

	Motivation Test Item				
	Never	Rarely	Some times	Often	Always
Post-test	8.72	16.02	24.54	27.38	23.33
Pre-test	7.07	12.73	25.05	29.09	26.06
$P > 0.89$					

Table 1. Comparing the relative frequency (%) of choosing items of motivation test in pre- and post-test of Arabic course in the experiment group

	Motivation Test Item					P value
	Never	Rarely	Some times	Often	Always	
Control	9.9	14.75	24.85	25.66	24.24	$p < 0.0001$
Experiment	7.07	12.73	25.05	29.09	26.24	$p < 0.0001$
Changes	-2.85	-2.02	+0.55	+3.43	+2	$p < 0.0001$

Table 2. Comparing the relative frequency (%) of choosing items of motivation test in post-test of Arabic course in the studied groups

4. DISCUSSION

Information explosion, technological advances, and complex personal and social needs have led to causing other traditional teaching methods not to be able to meet today needs. Researchers are looking for innovative educational activities. Teaching and learning methods with development of psychological training has had considerable progress. Human is constantly looking for ways for easier and more effective training. One of the effective methods for the purpose is podcast multimedia training system.

The results showed that teaching with podcast multimedia systems significantly increased learning of Arabic in the high school level. But of motivation reinforcement between traditional method and system for multimedia podcasts, showed no significant differences. The use of a multimedia system to learn a lesson, Arabic lessons in high school has advantages over traditional methods.

In confirming this result, Abbasi et al. reported significant effect of concept mapping on learning and memorizing of chemistry in high school (9). Massoumi et al. compared the impact of teaching via concept mapping and lecture methods on the amount of learning and memorizing of nursing students in cardiology course and found that the new method of multimedia had higher impacts on enhancing learning (10).

However, it is possible that the use of multimedia system does not have a positive and significant effect on all the courses compared to traditional method. In Mesrabadi et

al. study, surveying the effectiveness of the multimedia approach on the academic achievement of students in various courses, providing education based on concept mapping compared to conventional methods had positive effect on the academic achievement scores of students in biology and psychology courses, but did not affect the increase in physics (11). Results of (2012) on Zvarky Zarei (2012) regarding the educational impact of multimedia on learning and retention of female students mentally retarded fourth grade Arak city showed that the learning and retention of students in the experimental group compared with the control group significantly increased (12). Riyahi showed that infographic-based training did not have a significant impact on high-school students' learning history but had positive significant impact on their retention rates compared to the traditional methods (13). Rastegarpor and Yadollahi studied the effect of dynamic and static graphics to help students learn geometry in Tehran, Iran, high schools and reported that among geometry learning methods, using dynamic graphics, static, and traditional methods had no significant difference (14).

In the present study, it was showed that using multimedia teaching method did not increase motivation in learning Arabic. In many of the studies conducted in recent years in Iran, non-significant effects of new and multimedia methods in motivational achievement have been showed.

Zamani and colleagues (2012) performed a study on the effectiveness and sustainability of multimedia effects on self-efficacy and motivation in mathematics education in Izeh city. Results showed that significant differences was created in self efficacy and academic motivation after training the experimental group compared with the control group Azmoon Group after two months of training maintained their superiority. Thus, the results indicate a positive impact of multimedia on the efficacy and academic motivation (. (15

Checho (2007) accomplished a study on the effects of podcasting on learning and motivation: A mixed method study of at-risk high school students. Findings revealed significant positive differences in the podcast groups' content knowledge of grammar and book topics over students in the discussion group. Significant positive increases in discussion group competency subscale scores on motivational surveys. In contrast, motivational subscale scores declined for students in the podcast group. All students in the podcast group indicated an overall positive attitude towards using podcasts in the classroom for learning (16). Ghasemi and colleagues (2010) conducted a study on the impact of Researcher made multimedia on learning physics the first year of high school of Malayer city. The results showed that the use of Researcher made training multimedia has a positive impact on learning on students in high school physics (17).

Bolliger and colleagues (2010) conducted a study on Impact of podcasting on student motivation in the online learning environment. Results indicate students were moderately motivated by the use of podcasts in their online courses. Statistically significant differences in student motivation based on gender, class standing, and prior online learning experience were found. Benefits of using podcasts and recommendations for improvement of the multimedia files were offered by users (18). Farshi and colleagues (2013) conducted a study on Use of Podcasts in Effective Teaching of Vocabulary: Learners' At-

titudes, Motivations and Limitations. The findings suggested that learners had very positive attitude toward podcasts and had very high motivation to continue learning English vocabularies with the help of podcasts. Learners also pointed to difficult access, low internet speed and filtering as the limitations (19).

Bugos (2008) performed a study on The Effects of Podcasting on Academic Achievement and Intrinsic Motivation in an On-line Music Appreciation Course. Results of t-test indicate significant differences between group perceptions of the course. Members of the experimental class reported less anxiety and higher motivation levels compared to controls (20).

Evans conducted a study on the effectiveness of m-learning in the form of podcast revision lectures in higher education. Statistical analysis of the results of the study indicates that students believe that podcasts are more effective revision tools than their textbooks and they are more efficient than their own notes in helping them to learn. They also indicate that they are more receptive to the learning material in the form of a podcast than a traditional lecture or textbook, podcasting appears to have significant potential as an innovative learning tool for adult learners in Higher Education (21). Piab studied the impact of utilizing computer-assisted education using concept mapping in the course of geology in Paveh, Iran, and reported that academic motivational achievement in geology via modern methods of concept mapping did not have a significant change (22). Vahhabi and colleagues (2009) conducted a study in comparing the effectiveness of triage training lecture and multimedia software on nurses learning. The results indicated the effectiveness of both forms of expression lectures and software multimedia on the learning rate, but according to the characteristic of virtual training and learning based on the learner's interest, cost, efficiency, availability being flexible ability, good design, learner-centered and sustainable development is recommended this effective method (23).

Due to the diversity of courses, the difference in the outcomes of researches is natural. To prove the positive effect of an innovative teaching approach, numerous studies are needed. Firstly, various techniques are employed in podcast and secondly, courses are very diverse. Adding moderating variables such as gender tend to not-achieving same results in all the researches and are an additional cause. Each variety of multimedia techniques can be beneficial for a specific course. Therefore, more studies on the effectiveness of podcast method in different courses to determine its effects are necessary.

From our study, it can be concluded that podcast multimedia training system had a positive and significant impact on students' learning of Arabic. But, in terms of reinforcement of motivation there was no significant difference between the traditional method and podcast multimedia training system.

CONFLICT OF INTEREST: NONE DECLARED.

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