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TEACHING THE ‘SOCIAL STUDIES’ TEXTBOOK IN THE SECONDARY SCHOOL BY PRODUCING AN ELECTRONIC CONTENT AND ITS EFFECT ON STUDENTS’ SCHOLASTIC ACHIEVEMENT

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ABSTRACT

The aim of the present study was to evaluate the effect of teaching the ‘Social Studies’ textbook in the secondary school with the use of an electronic-based program on students’ learning in the first grade of high school. This study was an applied study considering its aim and an experimental study considering the control of the researcher on the study variables. The study pattern consisted of post-test with a control group. The study population consisted of all the female students of the secondary school in one educational district in Uremia, Iran, during the 2014–2015 educational year. The subjects consisted of 61 students who were selected using convenience sampling technique. The research tool consisted of a researcher-made questionnaire which was prepared with the use of the lesson resources of the educational system. The content validity of the questionnaire was estimated as excellent (82%) and good (18%) based on the opinions of three experts in the field of pedagogy. ANCOVA was used for the analysis of data. The results showed that teaching by creating electronic content had significant effects on the students’ scholastic achievements in the fields of shaping social life and social, economic and political systems; however, no effects were observed in the field of family system. Therefore, it is recommended that the ‘Social Studies’ textbook be taught using an electronic-based teaching technique to promote learning of students in the fields of shaping social life and social, economic and political systems.

Keywords: *Production of Electronic Content, Learning, Social Studies*

INTRODUCTION

In the human sciences field, the social studies area is somewhat complex due to its relationship with the daily routines of individuals and its role in the society; in this context, imparting concepts in this field depends on the personal experience of the individual. It is difficult and maybe impossible to acquire some of these experiences. Therefore, production of electronic contents might be a proper alternative (Acikalin, 2010). Social studies comprise an important field in learning, which discusses the relationship and interactions of man with different environments at different times (past, present and future) and the different aspects of these interactions (political, economic, social, cultural, environmental, etc) (The Guide to Social Studies Curriculum for General Education Course, 2007). Computer technologies and multimedia environments are used to produce electronic contents to impart concepts; such techniques might improve the teaching and learning processes (Atashak *et al.*, 2012). Therefore, use of a learning technique in the form of electronic content production, as a basic and fundamental infrastructure for other active methods in this field, can be of great significance because the electronic content helps involve some of the five senses that were not previously involved in the learning process, resulting in an improvement in the students’ learning process (Emami, 2009; Divjak *et al.*, 2011) evaluated the role of IT in teaching mathematics at different educational levels and concluded that the students’ ages affect their inclination to use computer software programs for learning. In addition, Acikalin (2010) evaluated the effect of computer technology on learning; analysis of data showed that all the participants believed computer was a powerful tool that can facilitate learning. Tuzun and Hakan (2008) evaluated the effect of a computer game on teaching geography during the elementary period. The results showed a significant relationship between the new teaching technique and scholastic achievement. Baker (2001), too, reported a series of descriptive data from a grand opinion poll at a national level and showed that teachers mostly

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used computers to teach music, mathematics and geometry, physics and chemistry. Studies by Bath (2004) showed that the positive attitudes of students toward lessons improve their scholastic achievements in different lessons. Norouzi *et al.*, (2014) evaluated the effect of using educational software programs on active learning of mathematics by the fifth grade students in elementary school (with a constructivistic attitude) and concluded that use of educational software programs results in an improvement in scholastic achievement and students' active learning motivations. Khadad Husseini *et al.*, (2013) carried out a study to evaluate the acceptance of electronic education by students of TarbiateModarres (Teacher Training) University and showed that the individual characteristics of the trainer and the educational materials have a positive effect on the intention to use electronic educational programs through the pleasant and perceived effectiveness in a direct manner. Ataskak *et al.*, (2012) evaluated the electronic content of General Persian Course with the use of Mayer's multimedia designing principles and reported that the above content was useful for students' learning of Persian. Emami *et al.*, (2009), too, reviewed more than 50 foreign articles, 10 domestic articles and 80 electronic medical education-related websites and concluded that use of electronic learning has attracted the attention of medical sciences Universities all over the world and some universities, including the universities of the North America, have fully implemented such programs in the basic sciences courses. Khalil *et al.*, (2006) showed that the individual characteristics of users and the socio-economic and information-communicative statuses of their families and also innovative characteristics affected the acceptance of IST in their comprehensive center.

As discussed above, studies have shown that precise identification of ideals, aims, the audience and their needs and the analysis of the program content from different aspects, including its subject, are important for the production of electronic contents. Therefore, all the educational programmers should avoid going to extremes in order to defend or suppress electronic education, distant learning, virtual learning, etc; they should be familiar with various forms of electronic learning, including learning with the help of computer software programs, films or mobile-based programs and use them when necessary. However, these programs have not been emphasized equally in different aspects of curricula. In this context, the possibility of using electronic educational programs decreases with movement from the behavioral and capability-oriented attitude toward transpersonal attitudes. Therefore, the present study was an attempt to determine the effect of teaching 'Social Studies' textbook in secondary school by producing electronic content on students' learning in the first grade of high school. To this end, 5 theories were designed as follows: Teaching with electronic-based content affects secondary school students' learning in the fields of 1) shaping social life; 2) social system; 3) family system; 4) economic system; and 5) political system.

MATERIALS AND METHODS

Methods

The present study was applied study considering its aim and experimental considering the control of the researcher on the research variables. The study design consisted of pre-test and post-test with a control group. The study population consisted of all the female students in the secondary school in the Educational District One of Urmia, Iran, during the 2014–2015 educational year. The convenience sampling technique was used to select two classes with 30 and 31 students from two schools. The school considered a control (n=31) was a traditional school and the test school (n=30) was a smart school. The two schools were matched in relation to intelligence, family income, family educational level, family occupation and class grades. The tool used to collect data in the present study was a researcher-made questionnaire. Data were analyzed with ANCOVA.

Tools

The tool used to collect data in the present study was a researcher-made questionnaire in which the lesson resources of the Ministry of Education in the 2014–2015 educational year were used. The questionnaire consisted of questions with four choices, which encompassed all the knowledge, attitude, applied ...areas. The questions on the questionnaire were selected from the 'Social Studies' textbook of the secondary school in the 2014–2015 educational year, consisting of 30 questions for the first semester (chapters 1,2

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and 3) and 40 questions for the second semester (chapters 4 and 5). The reliability of the questionnaire was reported with the use of Cronbach’s alpha as follows: 0.73 for social life, 0.62 for social system field, 0.88 for family system field, 0.74 for economic system field, 0.78 for political system field and 0.85 for the whole questionnaire.

To evaluate the content validity of the questionnaire, the opinions of four experts in the field of pedagogy were used in a 4-point scale (excellent, good, moderate and poor), which yielded the following results: excellent, 82% and good, 18% for the whole questions. Therefore, the content validity of the tool was considered favorable based on the opinions of the experts.

Procedural Steps

The study design was quasi-experimental with pre-test, post-test and a control group. The students in two classes of the secondary school were selected as the test (n=30) and control (n=31) groups using the convenience sampling technique, and matched in relation to intelligence, family income, family educational level, family occupation and class grades. The researcher taught the ‘Social Studies’ textbook in a 6-week period in the test group using the electronic-based content and taught the same textbook in the control group in a conventional manner. The questionnaire of the research was completed in two terms (first and second). Finally, the results of the two groups were compared. ANCOVA was used for statistical analysis.

RESULTS AND DISCUSSION

Results

A total of 61 students were selected of 1400 students in the secondary school in Educational District One in Urmia, Iran, using the convenience sampling technique and assigned to the control (n=31) and test (n=30) groups.

Table 1 presents the means and standard deviations of the scores of the subjects. Comparison of the means of pre-test and post-test scores of the test and control groups revealed an increase in post-test scores of the test groups in social life, social system, family system and political system variables. However, in the control group such an increase in scores was observed in the family system scores only (Table 1).

Table 1: The means and standard deviations of scores in the test and control groups in the pre-tests and post-tests of the variables of the study

	Shaping of social life		Social system		Family system		Economic system		Political system											
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test									
	m	σ	m	σ	m	σ	m	σ	m	σ	M	σ								
Test	6.19	0.70	7.00	0.54	6.12	0.74	6.43	0.42	4.42	0.41	4.13	0.40	5.15	0.92	8.67	0.51	1.21	0.05	9.06	
Control	5.53	0.93	6.03	1.02	4.41	1.42	5.64	1.12	3.20	1.03	4.21	0.46	4.66	1.02	8.08	1.06	2.97	0.97	7.39	1.32

To test the hypothesis above, ANCOVA and analysis test were used. In fact, by controlling the effect of pre-test on the post-test scores, the post-test scores of the test and control groups were compared. In order to implement ANCOVA of some assumptions, including normal distribution of the dependent variable and covariance variable, the variances should be equal. Kolmogorov-Smirnov test was used to evaluate the normal distribution of the dependent variable and covariance, the results of which are presented in

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Table 2, indicating that the distributions of scores of shaping of social life, social system, family system, economic system and political system were normal in pre-test and post-test stages ($P>0.05$).

Table 2: The results of Kolmogorov-Smirnov test for the evaluation of normal distribution of variables

Kolmogorov-Smirnov test	Shaping of social life		Social system		Family system		Economic system		Political system	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
Z	0.58	1.04	1.18	1.10	0.78	1.08	1.03	1.38	1.03	1.18
Significance level	0.42	0.23	0.12	0.14	0.48	0.11	0.24	0.055	0.22	0.15

Levene’s test was used to evaluate the equality of variances, which showed its insignificance, indicating the equality of the variances of the data of variables under study ($P>0.05$) (Table 3).

Table 3: The results of Levene’s test in order to evaluate the equality of variances

Levene’s test	F	Degree of freedom 1	Degree of freedom 2	Significance level
Shaping of social life	2.74	1	59	0.08
Social system	3.16	1	59	0.11
Family system	1.66	1	59	0.20
Economic system	1.61	1	59	0.21
Political system	1.11	1	59	0.13

Table 4 shows that the differences in the post-test scores between the test and control groups were significant in scores for shaping social life [$F(1,58)=15.67$, $P<0.000$], social system field [$F(1,58)=5.80$, $P<0.019$], economic system field [$F(1,58)=11.46$, $P<0.001$], political system field [$F(1,58)=19.77$, $P<0.001$] and family system field [$F(1,58)=4.65$, $P<0.035$].

Table 4: The results of ANCOVA of the study variables

Sources	Sum of squares	Degree of freedom	Mean squares	F	Significance	Square of eta
Pre-test of shaping social life	0.44	1	0.44	0.64	0.43	0.01
Group	10.69	1	10.69	15.67	0.000	0.21
Error	39.58	58	0.68			
Total	2637.76	61				
Pre-test of social system	0.45	1	0.45	0.62	0.44	0.011
Group	4.21	1	4.21	5.80	0.019	0.091
Error	42.08	58	0.73			
Total	0.09	61				
Pre-test of family system	1.07	1	1.07	6.23	0.015	0.10
Group	0.80	1	0.80	4.65	0.035	0.07
Error	.950	58	0.17			
Total	1073.77	61				
Pretest of economic system	0.03	1	0.03	0.03	0.86	0.001
Group	9.20	1	9.20	11.46	0.001	0.165
Error	46.56	58	0.68			
Total	4456.00	61				
Pre-test of political system	0.99	1	0.03	0.89	0.350	0.015
Group	22.00	1	22.00	19.77	0.001	0.254

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Error	64.54	58	1.11
Total	4214.25	61	

Comparison of the mean post-test and pre-test scores between the test and control groups after elimination of the effect of pre-test showed that teaching by production of electronic content was effective in the learning of grade one secondary school students in the fields of shaping social life, social system, economic system and political system; however, in the field of family system, teaching using the conventional method was more successful than the use of electronic-based content in students' learning.

Discussion

Electronic education can help impart basic skills at a greater extent of time and place and decrease the differences in input behaviors of apparently similar learners in a group of learners. Although since 2002 the Iranian Ministry of Education, as the principal official body to implement policies to improve the educational processes, decided to develop IT and increase the learning efficacy and motivation of students and involve them in the learning responsibility and subject matters in Iranian schools, concerns about the development of electronic learning (e-learning) still remain for education experts. In addition, challenging the learners with learning contents and guiding learners to higher levels of cognition and critical thinking are subjects that have attracted the attention of pedagogy experts. Therefore, use of animation and visual software programs and activation of different senses of learners, including auditory and visual dimensions, and interaction of students with computers and mobiles are subjects that are believed to result in more extensive and better learning by learners.

The present study showed that the results of the variable of shaping social system are consistent with the cooperation theory for learning the lesson contents and preparation of students for citizenship and a good social life that can be found in works by Aristotle, Plato and philosophers from Rome, such as Marcus Aurelius, and the works of the Renaissance period philosophers such as John Amos Comenius and John Dewey. They are also consistent with Miller's hypothesis and with the results of a study by Emami *et al.*, (2009). The results related to social system are consistent with studies carried out by Acicalis (2010) and Miller (2000). The results in relation to the family system field showed that this field is not very much amenable to the production of electronic content, consistent with the important hypothesis on the effect of family environment on scholastic achievement. Studies carried out based on this hypothesis (Sternberg and Rebert, 2006) have shown a relationship between parenting style and the educational performance; children who are brought up in authoritative families have higher scholastic achievement scores compared to those brought up in families with other parenting styles. In addition, the results of the present study are consistent with those of a study by Khalili Moghaddam *et al.*, (2006). In relation to the absence of such relationship, it can be pointed out that the content of this discussion is more relevant with the conventional educational system of teaching and this lesson can be presented with the use of different techniques, including the art of drama and face-to-face education to achieve better results. The results in relation to economic system were consistent with those of studies carried out by Skillin (2006), Norouzi *et al.*, (2014) and Atashak *et al.*, (2012). Finally, the results in relation to the political system are consistent with studies carried out by Ayati *et al.*, (2007) and Miller's theory. They are also consistent with the results of studies by Khadad Husseini *et al.*, (2013), Divjak *et al.*, (2011) and Tuzun *et al.*, (2008).

As it was shown, the aim of producing electronic content is to organize educational materials, increase the learning returns and yields and finally promote scholastic achievement, which depend on coordination between the fields mentioned above. Use of electronic contents for teaching and learning purposes in the fields mentioned above is implemented by imparting texts, sounds and pictures to learners. In addition, the feat is achieved by using the mutual relationship between students and teachers, and by holding educational courses at the highest level at any location and time possible. Therefore, use of this technique can help extend education to greater levels and use various and more numerous techniques, such as texts and animations, along with sounds, for presenting lessons, which will have a profound effect on modification and improvement of the learning process. The overall results of the present study and other similar studies showed that by continuous revision of teaching methods and educational materials based

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on the needs of students and the community proportional to the current technologies and also holding electronic learning courses during the in-service training of teachers and providing proper infrastructures such as high-speed internet connections and presentation of proper and inexpensive hardware and software services to graduates and experts, it will be possible to provide a proper bed for promoting the academic level of learners and improve their learning with the use of state-of-the-art technologies.

The present study showed the effect of producing electronic contents on the scholastic achievement of students in the fields of shaping social life, social system, economic system and political system. It is suggested that in future studies the effect of e-learning on students' creativity, social relationships and performance improvement be evaluated.

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