The Effects of Electronic Media in Promoting the Teaching and Learning of Intelligent and Ordinary High School Students of Sari in the Academic Year of 2014-2015

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Abstract: The aim of this study was to compare the effects of electronic media in promoting the teaching and learning of intelligent and ordinary high school students of Sari in the academic year of 2014-2015. This research is an applied one and concerning the method, it's a descriptive and causal-comparative study. The study population included all first-year high school students in Sari up to 4,200 that were sampled based on Krejcie and Morgan and a total of 354 students has been sampled in the two groups (experimental group of 58 people and a control group of 296 people) using stratified random sampling. The data collection tool was a researcher made test based on the two-dimensional tables for specialized courses (Physics and Chemistry) and general subjects (literature in Farsi and English) is designed and set with 40 questions. Reliability obtained by test-retest and Pearson correlation coefficient $\alpha = 82/0$. Parametric independent t-test results showed that: Impact of using electronic media on increasing students' learning capabilities in smart and regular schools is different and learning capabilities of the smart school students is significantly better than students in regular schools. Impact of using computers, internet and educational CDs in smart and regular schools is different on students' learning capabilities and learning features of smart school students are better than students in regular schools. Besides, the effect of the use of electronic media is not different in male and female students' learning.

Key words: Electronic media, teaching-learning, students, smart high schools, normal high schools

INTRODUCTION

The third wave really brought a new way of life based on new institution which can be called electronic cottage. Rapid penetration among the people is changing their lifestyles. Speedy developments resulting from technology including productive technology and information technology in human life has created dramatic changes in industrial, economic, political and civil structures of societies and these changes have a significant impact on the life and work of people around the world.

Today the role of information technology in various fields is inevitable and its application in the contemporary world is expanding rapidly and has changed all aspects of life including education in its different forms (Afkhami *et al.*, 2012). And the field of teaching and learning is also an issue that in recent years has undergone a fundamental change to the influx of information technology (Bowels, 2000). In today's world, information and knowledge are changing rapidly. Teaching and learning processes is also changing as well as the management of schools. The use of electronic media could lead to the development of quality of education, expanding learning opportunities and the availability of teaching. Emphasis on the use of electronic media in teaching and learning can result in the acquisition of knowledge and skills required for effective performance in the modern world (Adeyemi and Olaleye, 2010). One of the keys to the success of electronic media is creating learning environments that increase community participation in learning. Effective participation in online environments allow learners to actively engage in the learning process and thereby put their knowledge to the

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test in the social structures and use new ideas and solutions in related structures. Interactions between learners, teachers and fellow learners can create thoughtful and innovative learners. Classification levels of participation in e-Learning provides a conceptual framework for understanding participation levels. This framework can be used to design, organize and evaluate cooperative learning activities used in online learning environments. Since, the role of education is very important in the development of society, therefore, actions must be taken to raise awareness of principals and teachers and other elements related to changes and developments in various fields of electronic media more seriously (Zoufan, 2003). The speed of development in the fields of media and instructional technology in the past few years is incomparable to any other fields of education and training in the current situation is not for permanent learning but merely to get a score. Also the present training dose not convey the necessary skills to kids and they will graduate without the skills. Meanwhile, the present education there is little coherence with life and employment in addition the collective wisdom and collaborative work in education has a slight importance.

In Iranian educational system because students and teachers are book-centered and they practically set aside the educational technologies, equipment, teaching aids and computer programs, it is necessary that education as one of the most important Education authorities consider Strategies to use the media as an important educational tool. As a result, it is vital for teachers to use active learning methods rather than passive methods that students have to play a major role (Zoufan and Lotfi, 2000). Electronic media has been helpful in facilitating the teaching-learning process and especially in training basic and advanced skills (Abedi *et al.*, 2012a).

Using media is the key to leading students to high levels of thinking. So, teachers and students should become familiar with how to use the internet and many software applications that would lead them through high level of thinking. We need to guide students in using the media and providing appropriate feedback on their work. The use of media will guide students toward problem-solving and decision-making in the world outside of the classroom.

Many researches have been done on the variables that some of them are pointed out. Niazazri *et al.* (2012) in a study entitled "The Impact of the Use of ICT on Elementary School Students Learning" showed that ICT has effects on enhancing learning geography and science.

Zamenie *et al.* (2011), in a study entitled "The Impact of Using Multimedia Software in Sociology on Academic Achievements of Students of Joybar," demonstrated that teaching using multimedia software is effective on the academic achievement of students and the use of multimedia software compared with the traditional method of teaching has more impact on students retention.

Heydari *et al.* (2010), in a study entitled "Comparison of the Influence of English Language Teaching with Educational Software and Traditional on Student's Academic Achievement in Sari," demonstrated that not only the use of educational software in teaching on the academic achievement of students in English is effective but also its impact is more than traditional one. Also teaching English using educational software is effective in motivating students to learn English.

Motamedie in a study entitled "Effect of Producer-oriented Teaching Methods on Student Performance in Physics" revealed that students learning in classes that educational tools have been used has increased. Also, many teachers are not familiar with the concepts of educational technology and use simple traditional teacher centered and subject centered methods as they are easy-to-apply.

Ghaznavi in a study titled "Impact of ICT on Academic Achievement in Third Grade Students in Khash" Showed that the use of ICT is not only conducive to academic achievement but also deepens the learned materials, increases learning, facilitates the learning process, getting familiar with new technology and Salimi (2008) in a study entitled "The Role of Media and Education in the Teaching-learning Process" showed that using various educational media and devices in various subjects and material has advantages including: shaping the first hand learning experiences or close to it, motivation and enthusiasm for learning and contribute to its continuity and saving time in training, establish easier communication, better understanding, formation of learning faster, deeper and more enduring.

Shabbir and Attaran (2007), in a study entitled "The Use of Physical Educational Software to Help Junior High School and Analyzing its Effect on Academic Achievement and Student Engagement in the Classroom." Compared the difference between teaching in traditional training methods and teaching with the use of computers and showed that use of a computer has a significant impact in increasing student learning, increase their interaction with each other and strengthen the spirit of doing teamwork. Turabi and Ghorbanie in a study titled "Impact of ICT on Health Knowledge of High School Students" showed that the use of IT is a flexible and predictable manner.

Habibi Fard in a study entitled "The Impact of Information Technology in Education" showed that students and teachers in the use of information technology will find chance to test and analyze their

favorite learning styles and creates a collaborative learning environment, promoting collective learning in learners. Adim in a study entitled "The Impact of Computer-assisted Instruction on the Academic Achievement of High School Students in Social Studies" showed that computer use has a significant effect on students' academic achievement in social studies. Elliott in a study entitled "The Effect of Education on Web-animation with Scientific Learning, Language, Reading and Comprehension" which was done on the third and fifth and eighth grade students in Palm Beach, Florida and New York using semi-empirical method, indicated that the performance of the experimental group was more than average and better than the control group.

Meelissen and Drent in a study entitled "The Impact of Computer Application on Attitude, Motivation and Achievement in Math Lessons to Elementary School Children." Carried out in the form of groups in Phoenix primary school in Arizona, revealed that computer applications have had significant effect on student achievement but had no significant effect on the attitude and motivating them.

Chuan Kung and Chuo in a study entitled "The Impact of Networks in Different Parts of the English Language Learning" indicated that by using these features English language learning in different sectors can be enhanced.

Clark and Salmon in a study entitled "The Impact of Materials and Teaching Aids on Students' Learning" demonstrated that teaching aids has significant influence on the learning of students. Harvldvn Glysnky in a study entitled. "The Effects of Media on Fourth and Fifth Grade Students' Learning" presented that when using the computer for homework and problem solving with teachers who have the necessary skills in guiding students, it has an effective relationship with learning (Abedi *et al.*, 2012b).

Thus, according to presentations and despite the problems in teaching and learning which means the interaction between teachers and students, activities of instructional design as well as the crucial role of the media in the process of learning, the aim of this study was to compare the effects of electronic media in promoting teaching and learning of smart and ordinary high school students of Sari.

The main hypothesis: the influence of electronic media in enhancing learning capabilities in smart and ordinary high school students in Sari is different.

Sub-hypotheses:
- The impact of electronic media on enhancing learning capabilities is different in smart and ordinary schools

- The impact of internet on enhancing learning capabilities is different smart and ordinary schools
- The impact of using educational CDs in enhancing learning capabilities is different in smart and ordinary schools
- The impact of using electronic media in girls and boys learning is different

MATERIALS AND METHODS

In terms of aim this study is functional and considering methodology it's a descriptive causal-comparative study. As it explores the phenomenon of the study by studying a feature in a group and compare it with the other's lack. The target population are up to 4,200 including all students (male and female) in the first year of high school in Sari in the academic year of 2011-2012. Using a stratified sampling based on Morgan table with a confidence level of 95% and measurement error $\alpha = 5\%$ Table 1, 354 people in two groups: the experimental group 58 people (students who have teachers to teach in the classroom by using computer and internet) and the control group (students who their teachers do not use computer and internet while teaching) were selected as sample.

Because the random selection of the sample students wasn't possible and there were limitations in using ICT in the classroom and due to restrictions on the arrangement of the students in the experimental and control group. Therefore, researcher selected students in the experimental group from four classes and students of the control group from 15 classes randomly.

Data collection tools in this study is researcher-made test based on two-dimensional tables for specialized courses (physics and chemistry) and general subjects (literature in Farsi and English) set and designed including 40 questions. Tests for all students in every school is attended by the researcher in one stage (post-test). The content validity of the instrument was confirmed by experts and to determine the reliability of the test method researcher used the method of "test-retest Pearson correlation analysis" $\alpha = 82/0$ is obtained which was approved. In order to analyze the data, descriptive statistics (frequency, percentage, mean and standard deviation) and inferred statistics (t-test) using SPSS18 Software.

Table 1: The samples of the study

School type	Smart ((test)		Ordinary (control)		Total
gender	Girl	Boy	Girl	Boy	
Population	357	426	1869	1646	4200
Ratio	0.085	0.078	0.445	0.392	1
Sample	30	28	157	139	354
The number of classroom	2	2	8	7	19

RESULTS AND DISCUSSION

The findings of this study is presented in two parts of describing and analyzing the data. The descriptive findings showed that from the total sample of students in smart schools 8.47% are female and 7.91% are male students. In regular schools 44.35% are female and 39.27% are male students.

The results in Table 2 indicate that 100% of students in smart schools announced that Persian literature, English, Physics and Chemistry teachers use the internet, computer and training CDs but this proportion was 4.73% in traditional schools. Overall, about 20.34% of the total sample also stated that the teachers taught the mentioned courses use computer, internet and use educational CDs.

In inferential statistics, to check the hypothesis t-parametric tests were used subject to the condition of equality of the variances of the two groups.

The main hypothesis: The influence of electronic media in enhancing learning capabilities in smart and ordinary high school students in Sari is different show in Table 3.

According to independent t-test because the 95% confidence level and 5% measurement error 352 = df = degrees of freedom significance level was calculated 05/0> Sig therefore, there is a significant difference between the two groups and we can conclude that "the impact of using electronic media to enhance students' learning capabilities in smart schools and non are different and learning abilities of smart school pupils are significantly better than students in regular schools".

The first hypothesis: The impact of electronic media on enhancing learning capabilities is different in smart and ordinary schools show in Table 4.

According to independent t-test because the 95% confidence level and 5% measurement error 352 = df = degrees of freedom significance level was calculated 05/0> Sig therefore, there is a significant difference between the mean of the two groups and it can be concluded that. "The impact of using computer to enhance students' learning capabilities in smart schools and non are different and learning abilities of smart school pupils are significantly better than students in regular schools".

The second hypothesis: The impact of internet on enhancing learning capabilities is different in smart and ordinary schools show in Table 5.

According to independent t-test because the 95% confidence level and 5% measurement error 352 = df = degrees of freedom significance level was calculated 05/0> Sig therefore, there is a significant difference between the mean of the two groups and it can be concluded that "the impact of using the internet to enhance students' learning capabilities in smart schools and non are different and learning abilities of smart school pupils are significantly better than students in regular schools".

Table 2: Use of computers in teaching in different groups

Group	Number	Frequency
Smart	58	58
Traditional	296	14
Total	454	53

Table 3: The results of independent t test comparing two group

Variable	Group	Number	Mean	SD	The amount of t value significance F (Homogeneity of variance)	Level of statistical	df sig	Significance level
Overall performance	Smart	58	25.7	11.5	4.281	0.471	352	0.000
	Regular	296	17.92	11.64				

Table 4: The results of independent t test comparing two group

Variable	Group	Number	Mean	SD	The amount of t value significance F (Homogeneity of variance)	Level of statistical	df sig	Significance level
Using computers	Smart	58	7.36	3.13	0.07	4.249	352	0.000
	Regular	296	4.99	4.01				

Table 5: Results of independent t test for comparing two group

Variable	Group	Number	Mean	SD	The amount of t value significance F (Homogeneity of variance)	Level of statistical	df sig	Significance level
Overall performance	Smart	58	5.94	3.78	0.064	2.825	352	0.005
	Regular	296	4.78	4.16				

Table 6: Results of independent t test for comparing two group

Variable	Group	Number	Mean	SD	The amount of t value significance F (Homogeneity of variance)	Level of statistical	df sig	Significance level
Using computers	Smart	58	11.75	8.96	0.091	2.638	352	0.009
	Regular	296	8.64	8.06				

Table 7: Results of independent t test for comparing two group

Variable	Group	Number	Mean	SD	The amount of t value significance F (Homogeneity of variance)	Level of statistical	df sig	Significance level
Over all performance	Girl	30	26.86	10.31	0.142	-1.238	56	0.221
	Boy	28	23.14	12.54				

The third hypothesis: The impact of using educational CDs in enhancing learning capabilities is different in smart and ordinary schools show in Table 6.

According to independent t-test because the 95% confidence level and 5% measurement error 352 = df = degrees of freedom significance level was calculated 05/0> Sig therefore, there is a significant difference between the mean of the two groups and it can be concluded that "the impact of using training CDs to enhance students' learning capabilities in smart schools and non are different and learning abilities of smart school pupils are significantly better than students in regular schools".

The forth hypothesis: The impact of using electronic media in girls and boys learning is different.

According to independent t-test because the 95% confidence level and 5% measurement error 352 = df = degrees of freedom significance level was calculated 05/0> Sig therefore, there is no significant difference between the mean of the two groups and it can be concluded that "the impact of using electronic media in girls and boys learning isn't different show in Table 7.

Media, today as a powerful phenomenon affecting the lives of individuals and society, allocated a special and important place in education. The world in which we live is a world that uses dynamic technology more and more every day and leads every scholars to recognize the importance and necessity of understanding the media and its implications.

Application of new technologies of information and communication has brought amazing changes in people's work and life activities. Information and communication technologies rapidly change the social structures and ways of life of people in the world and creates an information society where production is aimed at expanding scientific knowledge.

Penetration of a kind of a two-way or interacting in classroom education in developed countries fundamentally changed the relationship between teacher and student teachers appear as a guide rather than playing the role of a fully aware teacher. So, learner undertakes responsibility for learning, in this situation students do not act as a passive recipient but also determines the learning path eagerly under the guidance of teachers according to their strengths and weaknesses, Of course, depending on the age and mental condition of the student more or less responsibility can be asked from the teacher. By giving the computer a comprehensive job evaluation the teacher now works more like educational technologist and generates and develops its own curriculum using special multimedia software for preparing education programs. By reducing the teacher's duty to a guidance and delegating more responsibility to students the transferred knowledge is no longer fixed and pre-determined and is not transmitted from prosaic books and writings. Based on this, the current study was done to compare the effects of electronic media on the learning capabilities of students in regular and smart schools of Sari.

CONCLUSION

The results of this study indicated that the effect of computer, internet and educational CDs on students' learning capabilities differs in regular and smart schools. Well as the impact of using electronic media is not different in male and female students' learning.

The result of the main hypothesis showed that the effect of the usage of electronic media on students' learning capabilities is not the same in regular and smart schools and learning capacities are significantly in smart schools rather than regular ones. These findings agree with Niazazari *et al.* (2012), Zameni *et al.* (2011), Heydari *et al.* (2010) and Salimi (2008), research results. To explain these findings can be said that electronic media can be useful training tools to help students in their learning. In many cases, using the media to exchange

ideas about development and progress is merely done in order to develop collaborative learning duties in involved schools and this aspect of media use is the most important help to classrooms. The theory that children work as a group and collaboratively when it comes to using new technology to enhance the learning experience is a theory that has been discovered elsewhere by the efforts of others. Participation in the use of electronic media and increasing experience can be affecting factors to promote students' learning. Therefore, it is recommended that education officials and planners in the Vision of Iran 1404 plan in a way that the education fundamental transformation program, accelerating making schools smart and technological training to teachers can be done to not be a loser in the global competitive environment.

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