

*Original Research Article*

# The impact of learning through mobile phone on health information learning

Jafar Ahmadigol<sup>1\*</sup>, Pourandokht Fazelian<sup>2</sup> and Razie Mohagheghian<sup>3</sup>

## Abstract

<sup>1</sup>MSc Student of Educational Technology, Kharazmi University, Tehran, Iran

<sup>2</sup>Professor of Educational Technology, Kharazmi University, Tehran, Iran

<sup>3</sup>MSc Student of Educational Technology, Kharazmi University, Tehran, Iran

\*Corresponding Author's E-mail: [jafarahmadi92@yahoo.com](mailto:jafarahmadi92@yahoo.com)

This study aims to compare the affection of mobile on health information learning of students of Kharazmi and Allame Tabatabayi Universities. The study method is quasi-experimental with pre-test and posttest design by control and experiment group. The research is based on researcher-built test. 160 students selected by random cluster method. First, pre-test is performed. Then, the experiment group received affection with mobile and control group received affection with traditional method. With the same questions post-test is performed. Finally, survey questionnaire is presented to experiment group. T-test and covariance analysis are used for data analysis. No significant difference found between the mean of two groups in pre-test (experiment 7.50 and control 8.04) but there is a significant difference in posttest (experiment 17.56 and control 12.57). The affection by traditional and mobile methods is effective on learning but affection through mobile has high affection and the students are more interested in being trained by this method.

**Keywords:** Affection with mobile, Traditional affection, health information, Students

## INTRODUCTION

In universities, improving affection and learning quality is very important. Using technology to support instruction and learning process can be effective based on existing problems. Now, educational system of universities is as students have not permanent access to lecturers. Students can not have adequate affection any time needing learning in specific field and achieve the response of their questions. The existing educational system, interactions are remained in a level and are not improved (Starr, 2003). Learning situations of students are based on classroom, their learning is not continuous and the interaction in learning between students and lecturers and between the students is low (Kamar and Ong'ondo, 2007). When time is very important, still in most of universities, pamphlets used for textbooks but this time spend to providing pamphlets and test sources (Gregson and Jordaan, 2009). The existing educational methods don't present the information of students rapidly

to them and for various conditions; students are not flexible and cannot create adequate motivation between the students (Peters, 2007). The student needs to techniques helping them in better understanding of books and provide required guidance. Also, students need comprehensive, global and update information. To have access to required information, using technologies is an obvious issue (Chase and Herrod, 2009). Due to the familiarity of students of technology at acceptable level, today most of educational centers to transfer educational content can take technology. Creating electronic educational environments is example of this claim (Balasundaram and Ramadoss, 2008). Electronic learning is a new method in education presenting and managing learning opportunities to improve knowledge and skill through internet and computer networks and turn education and learning from affection to learning. Generally, electronic-learning is a method of learning

based on application of information and communication technology and other computer networks (Aminpoor, 2005). Also, the term electronic-learning includes: web-based education performance, applications, collaboration in electronic networks, computer-based learning, E-classrooms. Mobile learning is a subset of e-learning, developed since 2000 in organizations, institutions and schools (Saiedipoor, Sufi, Moraddiymokhles and Usefli, 2011). This method of instruction was used since 2007 in Sweden, and Italy Britain and students aged 16 to 24 years leaving the school were covered and also this method develops independent learning, self-centeredness, self-confidence, literacy and numerical school (Sadpoor, 2008). Mostly, adults believe that this type of instruction let them perform their family duties and continued their work during affection in anywhere and anytime (Gilbert, 2001). Brown considers mobile learning as a subset of electronic learning and electronic learning is a wide concept including online learning and mobile learning (Brown, 2003).

M-learning is sending and transferring instruction and learning through mobile devices such as: pocket computer, lap top, mobile or other mobile devices facilitating the performance of learning in learning process and the need of learner is met at any time and place (Bull, 2007). Mobile learning provides easy access of learners to various education sources at any place and time and the students by these technologies can download their sources and send e-mail to their teacher. This is a method providing continuous learning for students (Ciffci, Tabak, 2012).

This study has the general aim of comparison of the affection of learning through mobile Phone on health information learning of students of Kharazmi and Allametabatabayi University and the following hypothesis are evaluated:

Mobile instruction has high effect compared to traditional instruction method on learning health information of students.

## RESEARCH METHODS

The present study is a quasi-experimental method. This study is composed of two variable mobile learning and its effect on health information is evaluated. Also, the results are compared with traditional classroom method (control group). In this study 160 student selected by cluster random sampling method. They are divided into two group. Students of Kharazmi University are selected as experiment group being compared with control group (Allametabatabayi university students). These groups were divided in terms of age and education into two similar groups (80 experiment and 80 control groups). The data collection measure is 20-item researcher-built test and at first by researcher-built test, pre-test is performed and then SMSs with health information are

sent to the sample selected between Kharazmi University students (experiment group). The information was given as pamphlet to control group and the required explanations were presented to the students and then post-test was performed of two groups (experiment and control) and finally a researcher-built questionnaire regarding the interest and attitude of experiment group regarding mobile instruction was presented. For the analysis of pre-test and post-test data of both groups and determining their learning, t-test is used and to compare the difference of the man of experiment and control groups, covariance analysis test is used.

The validity of 20-item test of learning is tested by experts and face and content validity of test are confirmed by 7 lecturers of educational technology, ICT and population. The reliability was calculated as 0.85 by Cronbach's alpha and this showed good reliability.

## RESULT

To evaluate the health information of students in control and experiment groups, pretest and posttest are performed. This test is including 20 questions of four multiple choice of the sources of health information evaluation. The results for two mentioned groups are regarding the tests of learning in Table 2.

Based on the information of Table 2, the comparison of the affection of two methods of instruction regarding health information is significant statistically. Thus, instruction through mobile is effective than traditional instruction method. Based on significance of covariance analysis test, it is inferred that mobile-based instruction compared to traditional method has high effect on learning of health information of students. The third question of study is supported. Mobile-based instruction has high effect compared to traditional method on learning of students.

Also, at the end of questionnaire, survey is performed of the trained students by mobile (experiment group).

First question: Is Mobile applied in instruction? 74 students of experiment group in three levels (very much, much and average) believe that we can use mobile in instruction and learning and 6 people believe that mobile is used less in learning and instruction.

Second question: Are you interested to receive the textbook by mobile? 67 people in three levels of very much, much and average agree to learn through mobile. 9 people have low interest and 4 people are not interested at all.

Third question: Do you agree to receive sms regarding health information on holidays? 77 people at levels (very much, much and average) receive sms regarding health information on holidays and only three people are less interested to do it.

Fourth question: When is appropriate to receive sms? In this question, 38 people select 8 to 11 a.m., 2 people

**Table 1.** The features for comparison of experiment and control group

Groups	Age mean	Education
Control group	3.1 ±5 /21	BA
Experiment group	2.4 ±5 /21	BA

**Table 2.** The results of covariance analysis and survey of experiment group students

Group	Pre-test	Post-test	t	Significance	covariance analysis	Significance		
Control	7/50	12/57	-17/03	12/57	F(1&157)=264/41	گواه		
Experiment	8/40	17/56	-37/40	17/56	8/4	آزمایش		
Survey of experiment group students regarding mobile teaching								
Questions			Very much	Much	Average	Low	Never	Sum
1-Can we use mobile for teaching?			19	38	17	6	0	80
2-Are you interested to receive the textbook by mobile phone?			12	24	31	9	4	80
3-Do you agree with receiving SMS regarding generation information on holidays?			21	42	14	3	0	80
4-When do you want to receive sms?			8-11	12-15	16-18	20-22		80
			32	2	7	39		

12 pm to 3pm, 7 people 3 pm to 6pm and 39 people select nights for learning. These results show that most students know mobile effective on their learning and are interested in learning by this method as even they agree with mobile-based learning on holidays and other periods.

## CONCLUSION

In a general conclusion, we can present the results of study as mobile is effective on increasing learning of students of Kharazmi University as not only the learning of students in pre-test and post-test is increased, by comparing this group (experiment) with control group (students of Allametatababayi University) receiving traditional instruction, the results show the superiority of experiment group. In other words, both instruction methods (lecture and mobile) are effective on learning of learners but affection through mobile has high effect on learning. This method increases the motivation, interest, attitude of students to learning. The results of survey of students to learning through mobile show that the students are interested in learning by this method as on holidays or other times, they are interested in mobile learning. As mobile increases motivation, excitement of learners in learning even in non-educational days, the lecturers should use less lecture instruction methods and

identify the abilities and advantages of mobile in education and try to apply this new technology mostly.

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