ACADEMIC PERFORMANCE OF ADOLESCENT STUDENTS HAVING M-LEARNING HABITS IN RELATION TO THEIR INTELLIGENCE

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Abstract

Mobile devices are widely used in the digital age. The educational use of mobile devices in and outside classrooms helps to develop positive attitude among students towards courses. The aim of this research is to find out the influence of M-learning habits on academic performance of adolescent students in relation to their intelligence. A sample of about 350 students of +1 and +2 grade both boys and girls from the private and government schools of Amritsar district was randomly selected for collecting data. Academic scores of final examinations of adolescent students were used to find out the academic performance of the students. M-learning Habits Scale constructed by the investigator was used to find out mobile learning habits of the students. General Mental Ability Test by Jalota was used to measure the intelligence of the students. The findings suggest that more than sixty percent of adolescent students are having M-learning habits. There is no significant relationship between academic performance of adolescent students having M-learning habits and their intelligence. There is no significant difference in the academic performance of adolescent students having M-learning habits in relation to their level of intelligence.

Key Words: M-Learning Habits, Intelligence, Academic Performance

INTRODUCTION

Mobile devices are widely used in the digital age. Social network sites, which are becoming indispensable with Web 2.0 technologies, facilitate acceptance of mobile devices both by students and teachers .The educational use of mobile devices in and outside classrooms helps to develop positive attitude among students towards courses (Ozdamar Keskin, 2011). Students' motivation and interest are enhanced by mobile learning (Ozan, 2013).Moreover, the use of mobile devices in the learning environments encourage students to participate in learning activities. Therefore, it can be said that mobile devices may become a necessity for students and educators (Yilmaz and Akpinar, 2011).

One of the advantages of mobile learning is the ability to provide access to learning contents out of the course time. There are various researches which show that mobile learning increased academic achievement (Celik, 2012, Kose, Koc & Yucesoy, 2013; Oberer & Erkollar, 2013). Ozan (2013) came with a conclusion that mobile learning is more permanent for learning. Evans (2008) emphasised that mobile learning is more interactive and effective than books, and more supportive in learning. Mobile learning offers benefits such as quick access to information for students, diverse ways of learning, contextual learning, control over own learning, supporting and encouraging learning, increased participation in the course, will to use in the course and positive meaningful differences of academic achievement ,considering the results of the researches.

The present research has been designed in accordance with the recommendations expressed above. The aim of this research is to find out the influence of M-learning habits on academic performance of adolescent students in relation to their intelligence . The present study will provide an insight to the parents to deal effectively with their children, so that they will be able to develop an understanding of the importance of mobile technology for the students. This understanding will also assist the teachers to create student oriented practices in inculcating good study habits at school. Further, proper training and guidance may be given to the children accordingly to develop their self-concept, good study habits to improve the academic performance.

Literature Review

Wang and Wang (2008) conducted a study on "Investigating the determinants, age and gender differences in the acceptance of mobile learning." The results indicated that performance expectancy, effort expectancy, social influence, perceived playfulness, and self-management of learning were all significant determinants of behavioural intention to use m-learning. Also age differences moderated the effects of effort expectancy and social influence on m-learning used intention, and that gender differences moderated the effects of social influence and self-management of learning on m-learning use intention.

Al-Fahad (2009) conducted a study on "Students' attitudes and perceptions towards the effectiveness of mobile learning in King Saud University, Saudi Arabia." The result revealed that M-learning activities could much better engage students in the learning process.

Students in this survey changed from passive learners to truly engaged learners who were behaviorally, intellectually and emotionally involved in their learning tasks.

Bidaki, Naderi and Ayati (2013) conducted a study on "Effects of Mobile Learning on Paramedical Students' Academic Achievement and Self-Regulation". The results showed that using this method had quite significant impact on both students' academic achievement and their self-regulation learning ($p < 0.05$).

Dos (2014) conducted a study on "The Relationship Between Mobile Phone Use, Metacognitive Awareness and Academic Achievement." The result showed that there was a positive relationship between mobile phone usage and academic achievement, also between mobile phone usage and metacognitive awareness.

Elfeky and Masadeh (2016) conducted a study on "The Effect of Mobile Learning on Students' Achievement and Conversational Skills". Result of this study showed that students' understanding and comprehension of the course's learning content provided via Mobile Learning was much better than their peers' understanding and comprehension of the same content through the use of traditional ways of teaching, i.e. face-to-face learning.

Govender (2017) conducted a study on "Students' perceptions and readiness towards mobile learning in Colleges of Education: a Nigerian perspective." The result revealed that the level of readiness of students increases more with an increase in mobile learning conditions, as compared to corresponding increases in performance expectancy, effort expectancy and social influence.

Wang, Fang and Mio (2018) conducted a study on "Learning performance and cognitive load in mobile learning: Impact of interaction complexity". Results showed that interaction complexity had an impact on students' learning performance and mental effort in mobile learning; the higher the interaction complexity was, the higher mental effort and the better learning performance in mobile learning was there.

Aljaloud, Gromik and Kwan (2019) conducted a study on "Saudi undergraduate students' perceptions of the use of smartphone clicker apps on learning performance." This study found the use of a smartphone clicker app promoted increased teacher-student and student-student interactivity, leading to active collaboration learning by students and improved learning performance.

OBJECTIVES OF THE STUDY

1. To study percentage of adolescent students having M-learning habits.

2. To study the relationship between academic performance of adolescent students having M-learning habits and their intelligence.

3. To study differences in the academic performance of adolescent students having M-learning habits in relation to their level of intelligence.

HYPOTHESES OF THE STUDY

1. More than sixty percent of adolescent students are having M-learning habits.

2. There is no significant relationship between academic performance of adolescent students having M-learning habits and their intelligence.

3. There is no significant difference in the academic performance of adolescent students having M-learning habits in relation to their level of intelligence.

Sample of The Study

A sample of about 350 students of +1 and +2 grade both boys and girls from the private and government schools of Amritsar district was randomly selected for collecting data.

MEASURES

Following tools were used for the collection of data for the given study.

- Academic Performance - Academic scores of final examinations.

- M-learning Habits Scale –Constructed by the investigator .

- Intelligence- General Mental Ability Test by Jalota.

RESULTS AND DISCUSSIONS

To analyse the data mean, standard deviation and correlation , percentage and t-test were used. Following are the results.

Table 1 :Mean and Percentage of all responses of Mobile Learning Habits Scale

S. No.	Sample	Mean Score	Standard Deviation	Percentage Of Students Having M-Learning Habits
1	350	101.24	14.87	220/350*100=62.857

Table 1 reveals that the mean score of M-Learning Habits Scale is 101.24, standard deviation is 14.87.Number of adolescent students having m- learning habit was computed by taking a sum of mean and standard deviation ,which is 116.2. A separate excel sheet prepared by

investigator comprised of adolescent students having mobile learning score more than 116.2 which came out to be 220 in numbers.

From the Table 1 it is observed that 62.85% students are having m-learning habits. Hence, Hypothesis 1, namely, "More than sixty percent of adolescent students are having M-learning habits" is accepted.

Table 2 : **Relationship between the academic performance of adolescent students having M-learning habits and their intelligence**

Variable	Sample Size	Mean	Stanard Deviation	Correlation	Inference
Academic performance	200	81.75	8.39	0.059	Not significant at 0.05 level
Intelligence		48.06	13.59		

A close scrutiny of the result inserted in Table 2 shows a positive correlation between academic performance of adolescent students having M-learning habits and their intelligence of order r=0.059 which is not significant at 0.05 level of significance(N=200,df=198). The positive sign of correlation indicates that there is positive relationship between academic performance of adolescent students having M-learning habits and intelligence. Therefore hypothesis II, namely, "There is no significant relationship between academic performance of adolescent students having M-learning habits and their intelligence" is accepted.

Table 3: Table showing the difference in the academic performance of adolescent students having M-learning habits in relation to their level of intelligence

Variable	Groups	N	Mean	S.D.	Standard Error Difference	T-Value	Inference
Academic performance	High intelligence	27	83.23	8.03	2.15	0.62	No Significant difference at 0.05 level
	Low intelligence	33	81.9	8.59			

A close scrutiny of the result inserted in Table 3 shows t-value=0.62 which is not significant at 0.05 level of significance (N=60, df =58). It shows that there is no significant difference in the academic performance of adolescent students having M-learning habits in relation to their level of intelligence.

Therefore hypothesis 3, namely, "There is no significant difference in the academic performance of adolescent students having M-learning habits in relation to their level of intelligence" is accepted.

Educational Implications

1. Mobile learning offers constructivist learning .Activities that encourage learners to actively construct new ideas or concepts based on their prior and current knowledge should be introduced in curriculum.

2. Mobile technology offers new learning opportunities extending beyond traditional activities, allowing participation, challenge, and competition of participants. Hence it must be made part and parcel of teaching learning process**.**

3. Mobile technologies foster self-directed learning, which encourages students to participate more actively in their learning process.Hence, the rules, policies, and strategies of educational institutions must change perspective, providing opportunities for new approaches to active learning.

4. Mobile technology enables educational institutions to utilize a set of features such as flexibility, ubiquity, and portability in learning that will be of great benefit to teachers and students in the new digital era.

5. To take advantage of students' interest and the benefits of m-learning in education, educational institutions and their teachers should design innovative learning methodologies.

6. There should be initiatives that support the deployment of technology and content. Students and teachers have the opportunity to quickly and inexpensively access different platforms, forms, and application resources through mobile phones . Some free commercial tools allow instructors to quickly create and implement their course content. Cloud computing reduces costs, creates a greater focus on learning, and increases the speed of m-learning implementation.

7. Mobile devices help in self-assessment**.** Video cameras can be used to record lessons, allowing teachers to reflect on their teaching practice and identify specific areas for improvement.

8. In recent years, several m-learning research projects have been conducted in formal and informal educational settings. The results have been encouraging, showing that

mobile devices definitely generate motivation to learn . This technology is accessible to individuals, educational systems, and countries where other learning models have failed . The use of mobile devices can intensify, refine, and enrich learning due to the intrinsic characteristics of mobile devices associated with education .

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