USE OF SMARTPHONE AS A LEARNING TOOL IN DISTANCE EDUCATION

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Abstract

In modern days, rapid emergence of digital gadgets is actually the secret behind the success of distance learning system globally. The current study focused on use of smartphone as a learning tool in distance education. The objectives of the study were to examine the distance learner's attitude about the use of smartphone as a learning tool and gender differences in use of smartphone for learning. It was descriptive study, and cross sectional survey design was used. The participants of the study were included 258 students from B.Ed 1.5 Years program of Allama Iqbal Open University Islamabad region. Proportionate stratified random sampling technique was used to ensure the equal representation of sample from each semester. A self-developed questionnaire on 3 point likert scale was used to collect data from participants. Frequency, Percentage, Mean and t-test were used for data analysis. Results of the study indicated that majority of the students have awareness about smartphone usage for academic purpose, they found smartphone user friendly in terms of quick learning and easily accessible at any place. Use of smartphone makes learning interesting and convenient at fingertips anywhere and anytime. Majority of the students do not have much awareness about the usage of latest software's e.g Microsoft Teams, Zoom Application, Google Meet etc. It was suggested that government may provide smartphones with fastest internet connectivity to students at national and provincial level through Youth schemes. Further recommended, before implementing smartphone usage for educational purpose, students must be trained; about latest software's and effective use of smartphone for learning purpose.

Key words: Smartphone, Distance Learning, Distance learners, Digital gadgets, AIOU

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Introduction

Getting education is essential for everyone without any discrimination. High literacy rate can push the nation towards progress. In this context distance education is playing a significant role to provide equal opportunities for pursuing education on the door steps to the people who remain behind. Distance education is considered one of the most beneficial method of delivering education or instructions, to the individuals not in a traditional classroom but through the services of some communication technology as pointed by Hillman, Willas & Gunawardena (1994). Definition of distance education tells us that; the educational process in which instructor and students are not in the same place but they are connected with some channels. These channels may

be internet, satellites, broadband lines or wireless communication devices according to Wang & Smith (2013).

The emergence of latest technologies is actually the secret behind the rapid growth and success of open and distance learning system globally. We can notice that the communication barriers which were present a few decades ago, now has been reduced by the adoption of latest technologies. Communication plays a vital role in Open and distance learning and by the induction of latest technologies communication barriers could be reduced. Jesa (2017) describes in this era of technology; usually programs offered to students containing a variety of media and these students are lived at different locations. These efforts are just doing to fulfill the educational needs of such a huge population. These technological developments make it possible to provide online specialized courses to students in geographically remote areas so they could also get equal opportunities of education like other students.

The goal of distance education from traditional education to online education has becoming popular all over the world; number of technologies has been introduced to facilitate the learners. The world is changing dynamically so; in this era of digitalization, teachers, institutions and books are not the only source of information. There are many other emerging sources are now available for learning such as smartphones and other digital devices.

In recent year's smartphone learning has become an emerging trend in distance education, which has ability to make the process of learning more accessible, flexible and personalized. Smartphone learning is about to explore the new ways of learning environment for the people who want to learn beyond the classroom boundaries because they can access information in public places, parks, airports, libraries etc anywhere and anytime through it (Hahn,2008). Distance learners used smartphones to in touch with teachers and fellows and to get immediate feedback about assessments. O'Malley,et.al. (2006) suggested ten instructions for teachers if they want to use smartphone technology in classroom setup. The instructions included usability, choice of technology, roles, equipment management, support for teachers, administration, collaboration, services and applications, and security and privacy.

The traditional form of distance learning requires learners to be present in one fixed location, while smartphone learning requires just internet connectivity and students can be anywhere. Of course smartphone learning has more advantages instead of traditional form of learning. The aim of present study was to examine the distance learner's attitude about the use of smartphone as a learning tool.

Research Objectives

The research objectives of the study were:

1. To examine the distance learner's attitude about the use of smart phone as a learning tool.
2. To examine gender differences in use of smart phone for learning.

Research Question

The research questions of the study are given below:

1. What is the attitude of distance learners towards the use of smart phone as learning tool?
2. Is there any significant difference among students attitude towards the use of smartphone for learning in terms of gender?

Review of Related Literature

According to Low (2008), history tells us there was educationist who came up firstly with an idea of flexible learning and behind the idea of designing a personal computer looking for individualized education was also an educationist. So, shortly we can say without any second thought, they were genius folks because their dreams came true today as computers are assisting humans in different capacities everywhere along with the field of education.

These technological developments also have the ability of creating new environments of learning such as virtual classrooms. By international collaboration, students all around the world may participate in online learning activities through digital devices (Brown & Palincsar, 1989; Brown, Collins, & Duguid, 1989). Shortly we can say the expansion in the field of information technology has eliminated the boundaries of time and place for both teachers and students. Ozgur (2007) pointed out that digital books and online resources are supported course materials for distance learners.

The goal of distance education from traditional education to online education has becoming popular all over the world; number of technologies has been introduced to facilitate the learners. For example, emails, satellite communication, computer technology, mobile technology etc. These all are used to promote student teacher interaction and to provide quick feedback to the learners located at the distance (Riel, 1993).

In recent years, the extensive use of computers and internet has made the process of distance learning more comfortable and faster. Now distance educational institutions are doing all educational activities online. Developed countries have already accept this dynamic change in education system and now they are delivering full curricula to their students online and taking assessment in the same way too. It is more comfortable, economical and beneficial for full time employees of all ages as said by Garrison (2011). Now the world best universities are also offering free online courses and certifications even at weekends for those who cannot get the opportunity of getting education on regular basis.

Major news channels also have news editions in the form of e-editions, books and research journals are also available online by just one click on Google while digital libraries are also available 24 hours a week. In coming years everything will be online; because now children are growing up with digital devices and students can use their smartphones and tables etc for job hunting and studies anywhere and anytime. Smartphones are competing to other technologies especially computers in features, affordability and mobility. So the future of distance education certainly is mobile learning as claimed by Rizvi, Khan & Tahirkhali (2016).

The theoretical basis that supports the present study is the social constructivism theory which emphasis that individual learn best when they actively construct knowledge and understanding. Vygotsky (1962) more emphasized on connection between people and social interaction to the process of development. In 21st century still many educators prefer behaviorist methods which are teacher centered based on lectures and encourage rote learning and memorizing. This kind of learning environments discourages personal development of students, their social interactivity and critical thinking also called student-centered approach.

In this context, learning through smartphone by using social constructivism theory when learners interact with peers and teachers during learning tasks they feel real learning experiences;

when they involve in learning process by self through smartphones it enhance their motivation and encouraged to develop deep critical thinking skills.

Taylor (2011) describes the technological importance in the field of education is as follows:

- Access to digital libraries
- Process of Learning can be done anywhere anytime
- Quickly, up to date and authentic information
- Access to several digital educational websites
- Use of innovative methods of teaching
- Storage of educational data and its access at anytime and anyplace

By keeping in mind his opinion; we can noticed a lot of students now demands flexible schedules. Here in distance education system technology is used to communicate between instructors and learners. The purpose of the usage of each and every kind of technology is to make learning process more effective and comfortable for learners. These technologies have ability to give more benefits to leaners in terms of time and place and also make the learning process more learners centered as said by Olson & Wisher (2002).

Litchfield (2010) described that smartphones are getting smarter and more user friendly day by day. He claimed that today's smartphones are just like small PCs with hundreds and thousands of applications in it. It allows the users to do what they want to do at any time and at any place. These smartphones have constant internet connectivity which allows user to stay connected with the whole world and also unlimited services and information is available at their fingertips. Although these smartphones have the same facilities as computers have but they with the unique addition of mobility.

Researches proved that smartphones has changed the life of people totally. People especially youngsters totally depend on smartphones due to its unique functions. A survey conducted by world's largest e-Textbook and digital course material provider named Course Smart, identified its very common among college students to use digital books and articles and checking e-mails through smartphones (Course Smart 2011).

Presently smartphones have become a convenient platform to exchange information and knowledge in every field of life. Before admission in institution; unsurprisingly students have had experience on how to operate mobile devices (Annamalai & Kumar 2020).

Soman (2016) describes advantages about instructors who used smartphone for learning purpose during class are listed below:

- To come up with new technologies in classroom is important to build strong connections between students and teachers.
- Latest digital devices are lighter in weight as compare to books and computers.
- Mobile learning supports the process of learning beyond the classroom boundaries which leads towards blended learning approach.

- Mobile learning can be useful tool of learning for students with special needs.

Now learning through smartphones has gained popularity and attention of students and teachers. They can perform their task in more comfortable and flexible way through smartphones. Many universities has implemented smartphone technology for delivering the learning anywhere anytime. Generally smartphone technology can improve communication between teacher and student, allow knowledge sharing anywhere anytime, find answers to questions independently, and facilitate team work. The results of many researches show usage of smartphone learning has positive impact in learning process. It makes learners independent in their studies.

By concluding the literature, it is found that, the world has dynamically changes due to scientific developments in almost every field. Major changes have also been developed in the field of education too. Now the technology is used to bridge the teaching gap between teachers and students (Amez & Baert 2020). Distance learners are mostly adult learners who continue their studies with job and other tasks. Their interaction with institution and teachers are less as compare to regular students. They need more attention of instructors so they could not get bored during studies.

The new trends in distance education and use of latest software's make it possible to engage the distance learners in studies more effectively. According to Holmberg (1986), distance learning will support the motivation of students and improve the fun and effectiveness of learning if provided in a way that makes research relevant to individual learners and his needs. Such a huge impact of smartphone usage in our life has attracted the attention of researchers to use it in education setting as well. So we could take a maximum benefit of this device which is present in our hands every time in education setting.

Research Methodology

Keeping in mind time and resources the present study was delimited to the students of B.Ed 1.5 year program of Allama Iqbal Open University Islamabad region. The researcher chose survey method with accordance to nature of study and Cross sectional survey design was used. Shaughnessy, Zechmeister, & Zechmeister (2002) described that cross sectional research is the study which is based on information taken through questionnaires from diverse groups at the same time. It was considered appropriate for this study because the researcher examined the current use of smart phone as learning tool from distance learners of different groups at same time.

Population and Sample of the Study

The population of the current study consisted of 1284 students enrolled in B.Ed 1.5 year's program of Allama Iqbal Open University Islamabad region. Required sample size was determined using table for sample size given by Gay (2005). Total 258 students (53 male and 205 female) were selected through Proportionate stratified random sampling technique to ensure the equal representation of sample from each semester.

Research Instrument and Data Collection

A self-developed questionnaire on 3 point likert scale was used to collect data. Research instrument was validated from experts and rephrased in the lights of the suggestions of experts.

The reliability of the instrument was measured by Cronbach's Alpha and its value was 0.80. Data collection was done online by sharing the link of Google Form with students. Frequency, Percentage, Mean and t-test was used for data analysis.

Findings

Table 1 Distance Learners attitude towards the use of smartphone as learning tool

Statement	Agree N (%)	Agree to some extant N (%)	Disagree N (%)	Mean
I know how to use smartphone for academic purpose	207 (80.2)	31(12)	20 (7.8)	2.72
I know how to share educational content with fellows by using smartphone	183 (70.9)	75(29.1)	Nil	2.70
I know how to use latest software's e.g Microsoft Teams, Zoom Application, Google Meet etc	82(31.8)	75(29.1)	101 (39.1)	1.92
I Know how to upload assignments on LMS by using smartphone	160 (62)	18(7)	80 (31)	2.31
I feel easy to upload assignments on LMS through smartphone at any place	204 (79.1)	54 (20.9)	NIL	2.79
I find it easy to access information worldwide through smartphone	179 (69.4)	56 (21.7)	23 (8.9)	2.60
I find it easy to use smartphone for quick learning anytime	213(82.6)	45 (17.4)	NIL	2.82
I feel comfortable to do my educational activities on smartphone	202(78.3)	56 (21.7)	NIL	2.78
I feel comfortable in taking online classes by using smartphone	204 (79.1)	53(20.5)	01(0.4)	2.78
I feel that smartphone is user friendly	236 (91.5)	22(8.5)	NIL	2.91

Distance learners attitude towards the use of smartphone as learning tool are shown in table 1. It was found that 80% students know how to use smartphone for academic purpose. 71% students were known, how to share educational content with fellows by using smartphone. 32% respondents were known about the use of latest software's e.g Microsoft Teams, Zoom Application, Google Meet etc. 62% respondents were known how to upload assignments on LMS by using smartphone. It is easy to upload assignments on LMS through smartphone at any place as said by 79% respondents. 69% respondents found it easy to access information worldwide through smartphone. 83% respondents found it easy to use smartphone for quick learning. 78%

respondents felt comfortable to their educational activities on smartphone. 79% respondents felt comfortable in taking online classes by using smartphone. Smartphone is user friendly according to 92% respondents.

Table 2 Awareness about smartphone usage for learning purpose

Statement	Agree N (%)	Agree to some extant N (%)	Disagree N (%)	Mean
Use of Smartphone makes learning interesting	204 (79.1)	53 (20.5)	01(0.4)	2.78
Use of smartphone makes learning convenient at fingertips anywhere anytime	196 (76)	60 (23.2)	2(0.8)	2.75
Use of smartphone makes learning more motivating and engaging	225 (87.2)	33(12.8)	NIL	2.87
Use of smartphone boost my confidence towards learning without boundaries	241 (93.4)	13(5.0)	4(1.6)	2.91
Use of Smartphone makes me independent in my studies	219(84.9)	39 (15.1)	NIL	2.84
Use of smartphone to get help from distant friends about studies	236(91.5)	22(8.5)	Nil	2.91
Use of smartphone develops deep understanding of concepts in an interesting way	128 (49.6)	107 (41.5)	23(8.9)	2.40
Use of smartphone makes me more curious and improves my learning performance	188 (72.9)	60 (23.2)	10 (3.9)	2.68

The results of table 2 shows; use of smartphone makes learning interesting according to 79% respondents. Use of smartphone makes learning convenient at fingertips anywhere anytime as said by 76% respondents. According to 87% respondents, use of smartphone makes learning more motivating and engaging. 93% respondents said smartphone boost their confidence towards learning without boundaries. Use of smartphone for learning purpose makes them independent in their studies according to 84% respondents. 91% respondents use smartphone to get help from distant friends about studies. Use of smartphone develops deep understanding of concepts in an interesting way as said by 50% respondents. According to 73% respondent's use of smartphone makes them more curious and improves their learning performance.

Table 3 Use of smartphone in terms of gender

Aspect of Smartphone	Gender	N	Mean	SD	Std. Error Mean	t	df	Sig. (2 tailed)
Awareness	Male	53	2.67	0.311	0.042	4.00	256	0.005
	Female	205	2.47	0.341	0.023			
Attitude	Male	53	2.86	0.182	0.025	3.52	256	0.003
	Female	205	2.74	0.235	0.016			
Level of Significance =p= 0.005								

Table 3 is about the use of smartphone in terms of gender which is clearly shows that, there was a significant difference (p=0.05) between male and female students towards the use of smartphone as learning tool. A closer look at the result revealed that awareness level of male students had a higher mean value (2.67) as compare to female students (2.47). Similarly male students had more positive attitude towards use of smartphone as learning tool (Mean = 2.86) as compare to female students (Mean= 2.74).

Discussion and Conclusion

The present study was conducted to explore the use of smartphone as a learning tool in distance education. The results of the study indicated that majority of the students have awareness about smartphone usage for academic purpose, they found smartphone user friendly in terms of quick learning and easily accessible at any place. Use of smartphone makes learning interesting and convenient at fingertips anywhere and anytime. Majority of the students do not have much awareness about the usage of latest software's e.g Microsoft Teams, Zoom Application, Google Meet etc. This is somehow relatable with the study of Huber (2013,) about the usage of smartphone for learning purpose. He concluded in his study that in the coming decade smart phones will be a main learning tool in the distance learning system. The respondents of the study were agreed that smartphone could be the best learning tool in distance education. It was recommended by him that, universities have to motivate their students to use the smart phones for educational purposes.

In present results revealed that awareness level towards the usage of smartphone for learning were higher in male students as compare to female students. Results showed that male students had more positive attitude towards use of smartphone as learning tool as compare to female students. From the findings, it can be concluded that smartphone learning increasingly becomes a part of open and distance learning; because it makes the learning process effective, interesting and comfortable. It helps the learners to access any kind of academic information anywhere and anytime beyond the boundaries of classrooms.

Recommendations

Based on the findings of the study, following recommendations can be considered.

1. Government may also provide smartphones with fastest internet connectivity to students at national and provincial level through Youth schemes.
2. Before implementing smartphone usage for educational purpose, students must be trained; about effective use of smartphone for learning purpose and use of latest software's like Microsoft team and Zoom application etc.

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