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Role of Mobile Learning in Enhancing Academic Achievement of Students at University Level

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Abstract: *The main objective of the study was to investigate the role of mobile learning in enhancing the academic achievement of students at the university level. The current study was descriptive in nature, and a survey method was applied for the conduction of the study. The targeted population was all the students of the University of Kotli, Azad Jammu, and Kashmir. The researcher selected 353 university students as a sample of the study. A five-point Likert scale questionnaire was used as a research tool. Collected data were analyzed by using simple percentages, frequency, and mean scores. It is concluded that mobile technology enables students to engage in academic tasks, provides students with a unique learning experience; students collect information and research engines, engages students in computer and online learning. It is recommended that mobile learning can be improved by providing teacher training on behalf of university administrators for use in the process of teaching and learning.*

Key Words: Mobile Learning, Academic Achievement, University Level

Introduction

M-learning is seen as a modern stage in developing reading grades and computer support. M-learning is a modern way of learning comprised of wireless networks and mobile devices that support on all levels of education, especially the university level, that is accessible and collaborative for students and teachers as well. It is considered as the next step to continuously improve learning ant time, anywhere in the process of E-learning and grade learning (Motiwalla, 2007).

In recent years, all areas of modern colleges have already available wireless computing devices. The arrival of mobile provides freedom to people to use what they need, anywhere and whenever they are needed. Mobile devices are turning out to be more expensive and efficient. These devices can extend the benefits of E-learning programs by giving university students access to study materials and information communication technologies, as well as relevant assessments, collaborative learning, and educator feedback (Crawford, 2007).

Mobile devices can expand the learning process outside university settings by providing flexible, portable, and independent learning environments; they can also provide students with a means of communication with their lecturers and with one another. Furthermore, these gadgets provide students and faculty with the chance to use them during their downtime while working on an assignment or studying (Virvou and Alepis, 2005).

M-learning has not yet reached its full potential, and there is a disconnect between what is available and what is really used. There are numerous obstacles to m-learning adoption, including technical constraints such as connectivity, small screen size, insufficient memory, and high network speed; educational

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issues related to the use of mobile devices in classrooms, such as the ability to disrupt the learning process, and user acceptance (students and teachers). When it comes to technology investment, user adoption of new technologies is a major concern for institutional management. Users' aversion to new technology can lead to system failure and, as a result, inadequacy in the facility (Wang and Higgins, 200).

The understanding of modern education in our day sets the duty and responsibility of being an effective teacher is not just the child's development, but the teacher also have knowledge about mobile learning which is essential for modern era. However, there has been no emphasis on the implementation of mobile learning for university students toward the development of awareness of mobile technology in education.

Objectives of the Study

1. To identify the role of mobile learning on the academic achievement of students at university level
2. To find out the challenges that affect the implementation of this new technology?

Research Questions

1. What is the role of mobile learning on the academic achievement of students at the university level?
2. What are the challenges that affect the implementation of mobile learning technology at the university level?

Delimitations of the Study

Keeping in view the nature of the topic, the study was delimited to;

1. University of Kotli AJ&K

Review of the Related Literature

Technology is a modern miracle in our everyday. Technology permitted the toughest responsibilities to develop effectiveness. Technology allowed for faster and more effective communication and technology and also permitted the spreading of knowledge to be dispersed instantly. Moreover, technology has allowed students to learn and engage in such a way that they have never done before in a classroom setting. Soon (2011) described the initiative of Microsoft as the Anytime Anywhere Learning (AAL) program.

Some of the benefits of technology integration programs like the AAL program include an increase in interest in teaching and learning through technology, an increase in the authentic and purposeful use of technology, and an improvement in student writing skills. In the 1980s and 1990s, these programs paved the way for presidents, administrators, and educators to understand how technology may benefit instructors and students in the classroom (Soon, 2011).

Mobile Learning

Mobile learning is a term broadly used in different places around the world. In Saudi Arabia, for instance, it has been suggested for use in advanced education organizations because of specific factors, for example, the openness of cell phones, their capacity to support understudies, and the protection and opportunity they provide for share information. Portable learning is characterized as e-picking up involving cell phones for various reasons for schooling. It depends chiefly on innovation versatility, portability of understudies and discovering that adds to the more elevated level of training (Osman, El-Hussein & Cronje, 2010).

Instructive organizations today understand the truth of quick advancement and the expansion of cell phones, which are reflected as one of the most extensively utilized e-learning devices on the planet. Such advances have remembered the expansion for PDA speed and capacity ability. The consistent decrease in costs, then again, has prompted the multiplication of these phones, making them perhaps the most fundamental piece of everyday life for students for both young men and young ladies. It is the reality that PDAs are utilized for full-time correspondence objectives, yet fortunately, certain individuals have started to see them as the essential instructive calling in advanced education (Osman, El-Hussein & Cronje, 2010).

The quantity of those instructors and understudies who have begun involving it as an educational and learning apparatus is growing dramatically. Most understudies have started to beat their challenges as far as study overall setting through the compelling utilization of their cell

phones or, thereabouts called Mobile Learning. Instructors, as well, have started to contemplate furnishing their understudies with showing materials and exercises on their telephone. Nowadays, Mobile learning is broadly acknowledged by understudies. At the end of the day, finding out with regards to cell phones is generally acknowledged by Lam, Wong, Cheng, Ho, and Yuen (2011).

Use of Mobile Learning in Education

Worldwide accessibility of remote innovation has supported schools, colleges, and other instructive establishments to utilize versatile innovation to make learning and educating strategies. Over the previous decade, the utilization of portable and remote innovation in giving learning openings inside and outside the conventional stage has developed in accordance with significant exploration in the field of instruction (Leung and Chan, 2003). These machines work with correspondence and correspondence among understudies and workforce. Furthermore, they permit clients to learn in a hurry, and offer data outside the college.

Tinio (2002) took M-learning as the subsequent stage in E-picking up involving remote cell phones and correspondence innovation in educating and learning. Versatile learning can be characterized as a detour between portable innovation and online figuring out how to give whenever, anyplace. Notwithstanding, Liu and Han (2010) recommended that M-learning be another component of essential training, which assists individuals with acquiring information and abilities through remote innovation support.

Cell phones have a few highlights that permit them to be valuable devices for current training as far as giving investigation and sharing of learning content, which can be summarized as convenient, practical, omnipresent, usable, and associated Park, Nam, & Cha, 2012)

Cell phones are little and simple to fit in the pocket, permitting understudies to utilize them and convey them with little exertion. Cell phones give whenever, any correspondence among clients and furnish them with a wide scope of PCs, for example, information handling and capacity. Likewise, cell phones are simpler to utilize and more affordable than PCs (Fetaji, Ebibi, and Fetaji, 2011).

Much examination has been done on the utilization of cell phones in the homeroom. A few investigations have discovered that cell phones, when utilized appropriately, can impact understudies' scholastic accomplishment, just as their understudy's expectations toward learning (Huang, Lin and Cheng, 2010). Such revelations, alongside the multiplication of instructive innovation apparatuses and stages in the course of recent many years, have prompted the mix of an assortment of homeroom advancements and new educating procedures. Anyway, a few discoveries recommend that cell phones might not have a drawn-out impact on scholastic achievement or that they meddle with learning (Froese et al., 2012).

The number of tests led to discover how to help understudies utilizing phones all through the study hall has become quickly. Nonetheless, agreement on the best techniques has not yet been reached. Thomas and Orthober (2011) observed that sending instant messages to English and Latin understudies later class on subject-related themes, including everyday tokens of tasks and tests, appeared to build understudy status and finish.

Huang, Lin, and Cheng (2010) observed that the incorporation of cell phones in the main herbal science class highly affected post-test scores than those understudies who finished a similar work with a course reading. In a comparative yet restricted review, Lu (2008) inspected the adequacy of a cell phone contrasted with paper perusing for Taiwanese understudies learning English. The tests showed that the two gatherings had gained huge headway since the pre-test, yet post-test schools showed proof of higher benefits in jargon in speedy surveys between portable gatherings. Nonetheless, when tried weeks after the fact, any improvement in perusing because of cell phones was lost, and the advantages for the two gatherings were not fundamentally unique.

One more review inspected instructors' view of understudy accomplishment when cell phones were brought into the homeroom (Nassuora, 2012). Specialists saw that as 53% of instructors studied at different levels observed that cell phones profoundly affected understudies' learning in their homerooms. Around 38% of those educators met accept that cell phones have profoundly affected learning in their homerooms.

Conversely, 9% of instructors report that cell phones don't have an effect on their homeroom learning. In any case, no information was given to approve information on instructors 'feelings and real scholastic advancement.

Froese et al. (2012) tried understudies in Kentucky and found that understudies who openly messaged during guidance got 27% lower than understudies who quieted their calls during guidance. Such abuse of students can detrimentally affect learning since it can redirect their consideration, along these lines diminishing story maintenance.

Sung and Mayer (2010) recommend that portable innovation itself isn't enough for the development of understudy learning; rather, it is a significant conveyance technique. Given the blended examination in the article, further exploration is expected to decide the effect cell phones can have on understudy scholarly achievement contrasted with paper-based learning.

Learning in Mobile Age

Distributed storage is utilized to store computerized information in legitimate pools; distributed storage is possessed and worked by a facilitating organization (cloud specialist co-ops), the obligation of the taking an interest organization to engage organizations and end clients to store advanced information, utilize and secure the actual climate, and guarantee computerized information is available and open (Schofield et al. 2011).

Collaboration

Cell phones permit individuals to speak with one another and to impart and trade information with other specialized gadgets. Advanced cells can get to the Internet, yet these elements are not restricted to cell phones (PCs share different elements). Cell phones, for example, "shrewd" telephones, can undoubtedly interface with numerous different gadgets by means of a Bluetooth association and can pinpoint your area through GPS (Traxler, 2007).

As indicated by Ertl, Fischer, and Mandl (2006), video conferencing; otherwise called video remotely coordinating - permits cooperation where members can see one another and share archeological data utilizing broadcast communications innovation.

Game-based Learning

As proposed before, individuals ought to learn along these lines to play and game-based learning on the side of learning through play. Oblinger and Lipincincott (2005) allude to understudies brought into the world during the 1980s and later named Net Generation understudies, which arranges them as an Internet-adoring age, the people who figure out how to do (development understudies).

As per Lee and Hammer (2011), instructive PC games improve the great learning experience, permitting understudies to:

1. Learn with regards to viable testing; games are implanted in complex guidelines, and understudies should find and practice the game to track down ways of taking care of an issue or apply the principles through play.
2. Learn their way; there are numerous ways of finishing the game effectively, so understudies are permitted to pick their sub-goals to finish the game.
3. Control their feelings; games can make various feelings brought about by the achievement or disappointment of the game. Negative passionate encounters bring about misfortune in the game. Students can, in this way, discover that disappointment is a learning opportunity. Collaboration; a few games permit more than one player to empower understudies to partake in learning.

Situated Learning

The idea of existing learning is connected to the development of importance from regular daily existence exercises where learning happens in networks yet in a new climate, implying that learning happens through friendly cooperation, inside culture, and by connecting past information with new settings (Hou, 2015). The idea of discernible substance is broadly utilized in the portable learning structure, which owes chiefly to area put together capacity worked with respect to most cell phones. Inside the setting of existing

getting the hang of, learning exercises underline the advancement of learning through culture and credible setting (Sad & Goktas, 2014).

The facts really confirm that cell phones are not as great for a position of learning and advancement as they are in all better places. Likewise, they can likewise utilize those circumstances to further develop understudy learning. Research by Hwang and Tsai (2011) has shown the way that current discoveries that has been upheld by cell phones and portable innovation can assist with overcoming any barrier between certifiable critical thinking and formal tutoring. This aides understudies who might have the option to communicate with the genuine climate.

Iqbal and Qureshi (2013) contend that cell learning hypothesis systems ought to be organized in a manner that can assist with coordinating basic advances and learning conditions. The argument way to deal with cell learning was proposed by Wu et al. (2012), showing how learning and innovation are incorporated with one another. Inside existing learning, portable innovation fills in as a device for intervening and communicating itemized data and genuine encounters of understudies who support the whole learning process.

Digital Literacy

Computerized learning can be characterized as the level of an individual's capacity to utilize an assortment of specialized devices advanced innovations to oversee and coordinate advanced assets. Visual computerized client readings can be referred to in certain examinations as immediate connections and acknowledgment of innovation (Abu-al-aish and Love, 2013). Therefore, one might say that an educator who can accomplish significant degrees of computerized proficiency will definitely turn out to be more sure about incorporating innovation into the homeroom and will be better ready to utilize advances like versatile learning.

In the course of recent years, the UK government has put vigorously in working on computerized education. Computerized learning can be supposed to be a proportion of an individual's capacity to utilize an assortment of specialized apparatuses, advanced advances and innovation assets the executives. Consequently, the comparing pace of individual learning in innovation accentuates their capacity to utilize a scope of various advancements (Adedoja et al., 2013). Teachers and learners should have the option to peruse and compose according to an advanced viewpoint.

To work on the nature of schooling for an enormous scope, teachers need to adapt mathematically. By securing computerized proficiency abilities, instructors can fuse the vital information and abilities into their understudies as it is fundamental for them to prevail in an innovation-driven society (Sad and Goktas, 2014). The facts really confirm that innovation is coordinated straightforwardly into various spaces of activity. Subsequently, computerized schooling should be planned so that it can uphold understudies to make due in an interconnected society (Tyner, 2014).

Mobile Learning and Students' Academic Achievement

Technological progression has made a difference in modern times and has made an enormous difference in people's lives. Changes in technology development are the same and will maintain in the future. Such advances have been set apart in all areas like government, administrations, banking, medication and schooling organization. Guspatni (2018) revealed that understudies have fostered a superior comprehension of learning corresponding to the utilization of social applications that bring a foundation of sound conversation. Greetings, tech scholastic practices significantly affect understudies' learning and execution. Many years prior, the incorporation of instruction and innovation prompted the rise of e-realizing, which is m-realizing which is the most conspicuous structure (Alioon & Delialioglu, 2015).

The idea of m-learning has become profoundly installed in the field of schooling and has significantly worked on the scholarly capacity of understudies, particularly the individuals who decide to seek advanced education. Distant understudies or the people who procured information through actual training are currently ready to get to altered learning through compact, plentiful, and adaptable assets. This eventually creates understudies to have a functioning understanding as found in the standard study hall climate (Miller and Cuevas, 2017; Alioon and Delialioglu, 2015).

M-learning as a high-level instructional method of showing assumes an extremely imperative part in assisting understudies with fostering the capacity to shape complex metal constructions and comprehend content impeccably. Thomas and Orthober (2011) set up a positive connection between the legitimate utilization of versatile innovation, and the change of leaners zeroed in on learning and scholarly accomplishment. Understudies frequently get higher scores that incorporate portable perusing gadgets than those that get data about obsolete course books (Wilkinson and Barter, 2016).

Navaridas, Santiago, and Touron (2013) have an inspirational outlook of instructors on the viability of understudy training and the utilization of versatile portable innovation in study hall learning. Numerous instructors unequivocally accepted that versatile learning profoundly affects acquiring abilities, language abilities, and understudy results. More youthful understudies as dynamic understudies, use cells for entertainment only, correspondence and scholarly purposes, which makes them looser and excited with regards to learning by doing new things (Elfeky and Masadeh, 2016). Cell phones fill in as cutting edge innovation that gives freedoms to understudies to encounter the introduction of time-bound talks and alter the channel and time to view as content (Shonola, Joy, Oyelere, and Suhonen, 2016).

Research Methodology

The described study was descriptive and a survey method was used for the data collection. A questionnaire was used as a research tool in this study to determine the role of mobile learning in enhancing the academic achievement of students at university level. There were 4217 students studying at Kotli Azad Jammu University and Kashmir. A simple random sampling technique was used to select the sample from the respondents. The researcher selected three hundred and fifty-three (353) students using Morgan's (1970) table. Depending on the objectives and the review of related literature, a five-point Likert scale questionnaire was developed by the researcher as a research tool for university students to collect data on the role of mobile learning in the university. After verifying the instrument, pilot testing was performed on the instrument. Data were collected through the personal visit of the research. The researcher distributed questionnaires to University students. Students were asked to read and complete a list of questions. Statistical Package for Social Sciences (SPSS) was used for data analysis. The researcher used frequency, percentage and mean scores for the analysis of data.

Data Analysis

Table 1. Mean Analysis of Learning in the Mobile Age

S. No	Statements	N	Mean
1.	Mobile technologies enable learners to engage in education	353	3.55
2.	Mobile technology offer learners a distinct learning experience	353	3.25
3.	Mobile technologies involve students to the learning task using the computer and the internet	353	3.55
4.	Mobile technologies are used as a means to enhance learning	353	3.27

Table 1 shows the mean analysis of learning in the mobile age. The table also revealed that the students were agreed with all the statements of the dimension of learning in the mobile age. Moreover, the mean score of the statement "Mobile technologies enable learners to engage in education" (M=3.55) was very high within the statements.

Table 2. Mean Analysis of Mobility

S. No	Statements	N	Mean
1.	Mobility offers opportunity to learn in the classroom	353	3.55

S. No	Statements	N	Mean
2.	Learners collect data by search engines on the internet	353	3.46
3.	Mobile learning can take place where the student is still in their own atmosphere	353	3.26
4.	Mobile devices can be used in any place fit to the student	353	3.27

Table 2 shows the mean analysis of mobility. The table also revealed that the students were agreed with all the statements of the dimension of mobility. Moreover, the mean score of the statement "Mobility offers the opportunity to learn in the classroom" (M=3.55) which was very high within the statements.

Table 3. Mean Analysis of Access to Information

S. No.	Statements	N	Mean
1.	Mobile technologies can improve our contact to any kept records	353	3.41
2.	Mobile technologies enable students to easily access any kind of information	353	3.44
3.	Mobile technologies help students to collect information related to their subject	353	3.27
4.	Mobile technologies help to collect information in detail	353	3.24

Table 3 shows the mean analysis of access to information. The table also revealed that the students were agreed with all the statements of the dimension of access to information. Moreover, the mean score of the statement "Mobile technologies enable students to easily access to any kind of information" (M=3.44) was very high within the statements.

Table 4. Mean Analysis of Collaboration

S. No	Statements	N	Mean
1.	Mobile Technologies can be used for sharing learning content	353	3.41
2.	Mobile technologies enable learners to share ideas with their friends	353	3.38
3.	Mobile technologies combine multiple classrooms for learning purposes	353	3.26
4.	Mobile devices can naturally attach with various policies by Bluetooth	353	3.31

Table 4 shows the mean analysis of collaboration. The table also revealed that the students were agreed with all the statements of the dimension of collaboration. Moreover, the mean score of the statement "Mobile Technologies can be used for sharing learning content" (M=3.41) which was very high within the statements.

Table 5. Mean Analysis of Game-Based Learning

S. No	Statements	N	Mean
1.	Mobile technologies offer an chance to develop knowledge by the computer games	353	3.38
2.	Mobile technologies provide flexibility in learning by doing	353	3.23

S. No	Statements	N	Mean
3.	Mobile technologies enhance understanding of students by game-based learning	353	3.41
4.	Mobile learning enhance students' problem solving skill	353	3.03

Table 5 shows the mean analysis of Game-based learning. The table also revealed that the students were agreed with all the statements of the dimension of Game-based learning. Moreover, the mean score of the statement "Mobile technologies enhance understanding of students by game based learning" (M=3.41) which was very high within the statements.

Table 6. Mean Analysis of Situated Learning

S. No.	Statements	N	Mean
1.	Mobile devices is a connection between formal school settings and outdoor scenarios	353	3.23
2.	Mobile learning provides the knowledge to students to survive in technology era	353	3.24
3.	Mobile technologies encourage students to relate learning with practical life	353	3.27
4.	Mobile technologies enable students to deal with real-life situations	353	3.25

Table 6 shows the mean analysis of Situated Learning. The table also revealed that the students were agreed with all the statements of the dimension of Situated Learning. Moreover, the mean score of the statement "Mobile technologies encourage students to relate learning with practical life" (M=3.27) which was very high within the statements.

Table 7. Mean Analysis of Digital Literacy

S. No	Statements	N	Mean
1.	Mobile technologies help learner to use different communication tools	353	3.27
2.	Mobile learning provides the opportunity of learning new skills via digital devices	353	3.17
3.	Mobile learning enables students to use digital devices to enhance their learning	353	3.35
4.	Mobile technology provide chances to students to increase their understanding through digital media	353	3.27

Table 7 shows the mean analysis of Digital literacy. The table also revealed that the students were agreed with all the statements of the dimension of Digital literacy. Moreover, the mean score of the statement "Mobile learning enables students to use digital devices to enhance their learning" (M=3.35) which was very high within the statements.

Discussion

The major aim of this study was to measure the role of mobile learning in enhancing the academic achievement of the students at university level in Azad Jammu and Kashmir. Wang and Higgins (2006) conducted the study asking the question: Is there a relationship between the use of mobile technology in the online learning by students and students' achievement stated by the final marks? Mobile learning reflected flexibility and freedom of the student to create a modern paradigm in education. The GPA flow rate was taken from ordinary research to determine the relationship between variables with analyzes designed. This review shut a significant hole in surveying the effect of m-learning on scholarly achievement of understudies. The general outcomes didn't show a critical connection between m-learning and understudies' scholastic achievement. The

outcomes showed that broad investigation into neighborhood setting and nature of help for portable offices better comprehend the effect of m-learning on the achievement of online schooling in the web-based settings.

It is concluded that mobile technologies empower students to participate in education, provide a unique learning experience for students, and include students in the learning task utilizing the computer and the internet. The findings matched with the result of Tyner (2014), who also found that m-learning referred to sort of discovering that is occur inside and past the conventional learning climate with cell phones. It is also concluded that mobile technologies provide flexibility in learning by doing, enhance understanding of students by game base learning and enhance students' problem solving skills. Furthermore, the model gives college educators an organized way to deal with coordinating M-learning into advanced education fully intent on upgrading instructing and learning process. The results of the study are also similar to the findings of Sad & Goktas (2014).

Conclusions

1. It is concluded that mobile technologies empower students to participate in education, provide a unique learning experience for students, and include students in the learning task utilizing the computer and the internet.
2. It is concluded that mobile enable students to easily access to any kind of information, help students to collect information related to their subject and mobile technologies help to collect information in detail.
3. It is concluded cell phones enable learners to share ideas with their friends, combine multiple classrooms for learning purposes.
4. It is concluded that mobile technologies provide flexibility in learning by doing, enhance understanding of students by game base learning and enhance students' problem solving skills.
5. It is concluded that cellphone provides knowledge to students to survive in the technology era, encourage students to relate learning with practical life, and enable students to deal with real life situations.
6. It is concluded that mobile technologies help learner to use different communication tools, provides the opportunity of learning new skills via digital devices, enable students to use digital devices to enhance their learning and provide chances to students to increase their understanding through digital media.

Recommendations

1. It is recommended that learning in the mobile age might be improved by giving training to teachers on behalf of the university administration to implement it.
2. University administration and teachers might be give awareness to students about mobility; to use different websites in static environment by using internet.
3. It is recommended that there might be workshops for teachers and students from university administration about access to information and used stored data.
4. It is recommended that teachers might be guide students about collaboration with other colleagues to share data.
5. It is recommended that teachers might be provide a platform for students for game-based learning and learning by doing.
6. It is recommended that teachers and students might have knowledge about situated learning in a school setting and outdoor scenarios.

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