

# FACTORS INFLUENCING MOBILE LEARNING PROCESS

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**ABSTRACT:** *Mobile devices have become ubiquitous in the present day world because of their versatility and hence capability to be used in several different ways. The use of devices like smart phones and more recently tablet computers, have found their way into the educational sector as well. In this article describes the major components of mobile learning. This article also discuss on the various factors influencing mobile learning such as device factors, users factors and pedagogical factors. Device factors includes device Usability, Device functionality. User factors deals with Ownership, Privacy, Controlling learning, Flexible learning, Lifelong learning and Edutainment. Finally the Pedagogical factors includes Collaboration, Blended learning, Interactive learning, Contextual learning and Problem based learning. And this article also points out some Educational implications of Mobile learning in class room environment.*

**Key Words:** *Mobile Learning, Device Factors, User Factors, Pedagogical Factors*

## Introduction

Mobile devices have become ubiquitous in the present day world because of their versatility and hence capability to be used in several different ways. The use of devices like mobile phones and more recently tablet computers, have found their way into the educational sector as well. Learners and educators around the world are increasingly using the mobile technology to access information, streamline administration and facilitate learning in new and innovative ways. Many years ago senior executives in a company brought personally owned mobile devices to work and requested the office IT department to support it, giving birth to the Bring Your Own Device (BYOD) trend (Al-Harrasi, H., Al-Khanjari, Z. & Sarrab, M. 2015). Mobile leaning or m-Learning is a learning platform that provides learners anytime-anywhere access to educational resources. Learners find themselves empowered by using mobile technology to gain access to the required course materials even when they are disconnected from the network. Because of the immense advantages of mobile learning, not to mention the enormous untapped market comprising of most of the universities of the world, the area of m-Learning is also seen as an extremely lucrative business opportunity. The adoption of m-Learning technology offers advantages to both learners and educational institutions involved. On the part of learners, more students will be able to gain access to education, while for educational institutional there will be a definite reduction in the set-up and operational costs (Thiyagu, K. 2009).

The acceptance of technology in education has been continued as major concern for researchers and educators. The advancement of technology along with the availability of affordable, fast, and reliable networks have boosted the demand by students for better ways to complement their mobile lifestyles in support of their learning process. The advancement of technology now makes accessing to education easier than ever, especially mobile technologies. Mobile technology is subsequently being studied for its capability in improving the education experience and learning process for the learners. The advancement of technology has a huge impact in education field. It had transform distance- learning into e- learning and the latest m- learning .Evolving into the 21<sup>st</sup> Century, the increases of using handheld mobile devices are significantly observed and the conjunction of mobile technology and education is a significant development in learning and teaching activities (Danner, R.B. & Pessu,2013). Therefore, mobile education has a huge potential to be the stage of instruction and accessing educational materials. Extremely fast rate at which newer devices with better capabilities keep entering the market rendering the older devices obsolete. These are the primary obstacles, from the perspective of educational institutions, to implement m-Learning on a larger scale. However, some universities have taken the initiative and successfully integrated the m-Learning platform with their standard educational policy and practice.

## Main Components of M-Learning

The following to be as the key components of m-Learning:

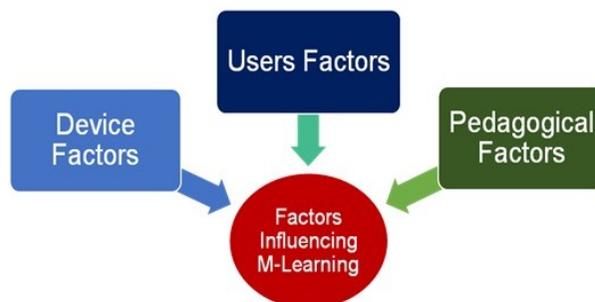
- The platform can be used learn and train learners, only when it is required. Further as soon as there a need for learning/training is detected the learner can immediately begin.

- Internet can be used as a powerful tool by both learners and educators to gain access to relevant information as and when required.
- Online learning materials and resources can be accessed as and when there is need.
- The principles learnt can be immediately applied in practice and vice versa.
- The learning context is limited by the needs of the individual learners. For instance, if a particular course is not required because the learner already known it, it can be skipped.
- Learning is not limited to home or campus or pre-decided locations. Learners can use their mobile devices even when they are travelling, while working, and even during leisure.
- The previously known concept of online learning is extended to learning from any place or time.
- Learners can communicate to fellow colleagues from different background, helping them gain wider perspectives of the world in general.
- Connecting to fellow colleagues can be done regardless of the respective geographical location of each individual.
- People belonging to remote communities can also be a part of the regular learning process of a University.

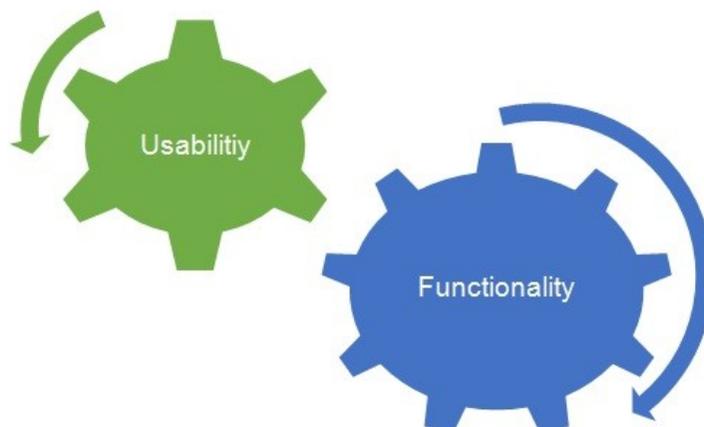
Mobile learning suggests the advantage of exploiting the number of learners and at the same time reducing the cost of education. This also helps to reach the universalisation of education. With mobile learning it is possible to reach each and every corner of over country that helps the people from rural areas to access the educational opportunities. From the various researches conducted on mobile learning with the higher education almost universal acceptance on the existence of several encounters that influence of mobile learning adoption in the learning process.

### Factors influencing M-Learning in education

There are various factors motivates learners and educators to make use of mobile learning strategies for teaching-learning. When we classifying the different factors influencing mobile learning we can observe that the main factors influencing the mobile learning are- Device Factor, User Factor and Pedagogical Factor( Bidin and Ziden ,2013). A brief discussion of these factors is presented here.



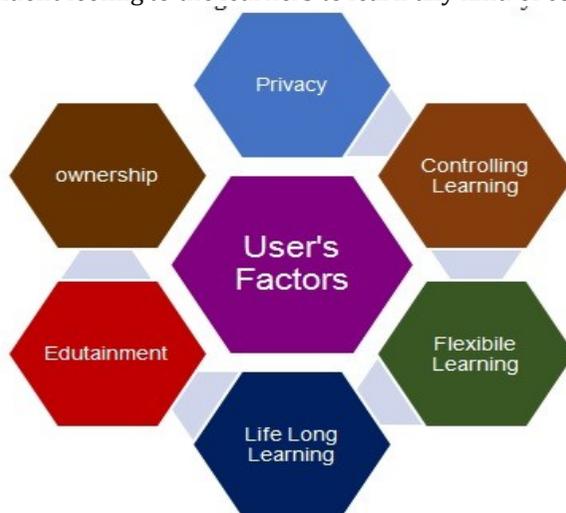
- 1. Device Factors:** Device factor mentions to the total usage features of the mobile device in class room and is classified into two facets:



- a) **Usability:** The students feel that, in the Class room learning one of the main benefits of mobiles devices is its portability, more than even a desktop computer. Also the students feels easy to handle with mobile devices rather than desktops. From this it is clear that the mobile device holds all features of a basic handheld device such as compact, lightweight and economical.
- b) **Functionality:** While conducting lectures on mobile learning process, the students reports that it can be access from anywhere anytime. From the characteristic of mobile learning, learners require specific functional features such as the ability to provide immediate information, responsiveness and continuous connectivity. Mobile devices certainly have all these features and importance of mobile devices increases significantly when observed from a mobile learning approach viewpoint.

2. **User's Factors:** This refers to the expectations from a user point with regards to the Mobile Devices in the learning process. Six aspects of the factors are listed out here one by one.

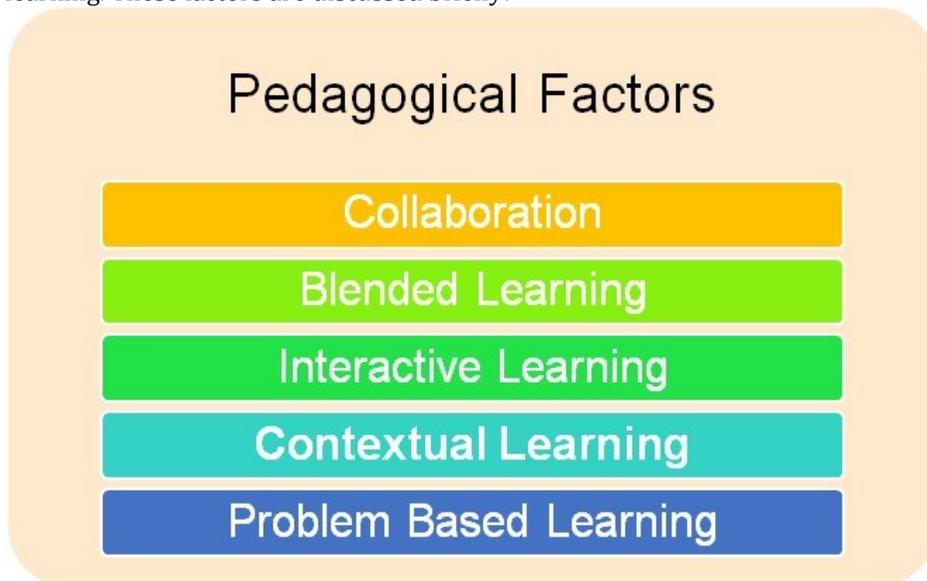
- a) **Ownership:** Mobile Learning Approach is very much effective when the devices are owned by the users so that the users treat the mobile device as their own. From class room environment students were interested in using their own devices. They feel comfortable with their devices and completes home assignments and attend online test with keen interest. Bring Our Own Device or Use Our Own Device creates a confident feeling to the learners to learn any kind of complicated task.



- b) **Privacy:** The students carrying their mobile device wherever they travel due to that the students can learn at anytime and anywhere. The mobile device users also expect the device to offer a sense of privacy which they do not expect from a personal computer. Mobile devices is also can be used in anytime-anywhere learning concept. Also the alert messages helps the learner to be aware of what is going on at present, coming examination schedules and grade points etc.
- c) **Controlling Learning:** The characteristics of mobile learning are not restricted to mobility, mobile learning can also ensure the measure of control extended by the learner over his/her learning process. Teacher with the help of technology devices can ensure the students participation in learning task inside and outside the class room. Teacher can guide students learning without direct involvement and assess student performance online. Sending assignments and alert messages using mobile devices helps the teacher to controlling students in learning activities. This clearly pointing towards the mobile devices skilled.
- d) **Flexible Learning:** A clear extension of the user-controlled learning feature is the flexible learning. Different from traditional learning strategies, mobile learning is not fixed to a time and place. There are many online open courses in which the student can enrol and complete the course according to his / her convenient. There is no rigid time schedules of internal or external assessments as in the regular education system. In mobile learning approaches there is opportunities of reappearing of evaluation. The only technical requisite is the type of mobile device and internet connectivity.
- e) **Lifelong Learning:** Mobile learning platform permits learning to be an enduring activity taking rather than being limited to a fixed course duration. A student after his / her formal education can made use of the advantages of mobile learning and can continue his/her learning with the help of mobile devices for getting a degree or diploma via distance education. Also the student can learn the more advanced practices in which profession he or she is working.

- f) **Edutainment:** By analysing the learner activities, students engaged in gaming apps or online games with mobile devices. It is frequently felt that educational games would teach concepts to learner better than the rote learning or even practical learning schemes. The mobile games helps the learner in avoiding boring lectures or long academic fatigue. Games are an essential part of a mobile devices and several researchers have been in favour of mobile games. Games are an integral part of a mobile devices and several researchers have argued in favour of them. So the mobile games can be wisely used for both learning and fun activities in the class rooms. It promotes the interest among the learners to learn and complete the learning task as early through the mobile devices.

**3. Pedagogical Factors:** Mobile devices are considered to have some unique features that helps to enhance teaching and learning. These factors are discussed briefly:



- a) **Collaboration:** Integration of Mobile devices in the classroom transaction enhances the collaborative learning among the learners . With the significance of collaborative learning as a pedagogical strategy in personal learning and collaborative experience, the learning application has been implanted from elementary education to higher education. Mobile devices has been adapted as a main communication tool since it is well-matched in engaging collaborative learning environments. Mobile devices in collaborative learning provides many possibilities, such as providing opportunities to groups of people working in same or different organizations to accomplish a specific goal using mobile devices. Therefore, the demand of collaborative learning over the mobile device has been increasing as a major education element.
- b) **Blended learning:** Educationalists have always encouraged that the best use of mobile devices in learning would be collective use of mobile devices with traditional learning methods giving the learners and teachers the best of both. Blended learning is an approach to education that combines online educational resources and opportunities for interaction online with traditional classroom methods. This happens when the physical existence of both teacher and learner, with certain elements of students, control over time and the place of learning. While students of schools with a teacher present, face-to-face classroom learning are combined with mobile device supported activities concerning content and delivery. Blended learning is also used in professional development of teacher.
- c) **Interactive learning:** Soon after the adopting the collaboration in learning, comes interaction. Interactive learning is a pedagogical strategy that includes social networking. Interactive learning has developed from the use of digital technology and virtual communication by learners. From the 21<sup>st</sup> century onwards, students enrolled in higher education sector have expected that interactive learning will be an integral part of education. The practice of interactive technology in learning for these students is as usual. The interaction in this perspective means that users can learn by engaging with the technology such as mobile devices in their learning process.

- d) **Contextual Learning:** Contextual learning is grounded on the constructivist theory of teaching and learning. Learning takes place when teachers are able to present information in a way that students are able to construct meaningfully based on their own experiences. Contextual learning experiences include internships, conducting workshops, on job training programmes and study abroad programs, like exchanging student with foreign universities. Learning and application have always been seen as two separate activities. Mobile learning allows learners to apply as they learn and learn as they apply.
- e) **Problem based learning:** Problem based learning is a student-centred approach in which students learn about a topic through solving a problem found in trigger material. The Problem based learning does not give emphasis on problem solving with a defined solution, but it allows for the development of other desirable skills and attributes. This includes knowledge acquisition, enhanced group collaboration and communication. The Problem based learning helps the learners to develop skills used for their daily life situations. It enhances critical appraisal, literature retrieval and encourages ongoing learning within a team environment. The Problem based learning tutorial process involves working in small groups of learners. Each student has to create a role within the group that may be formal or informal and the role frequently alternates. Mobile learning approach can be effectively used for this learning process.

### Conclusions

Mobile devices keep students engaged, attentive and motivated and allow interaction with the devices. Mobile devices have encouraged independent learning making it easy for teachers to differentiate individual student needs and share resources with students and among each other. For students, mobile devices are affordable in price, can be use with easefully and mobile devices are very attractive in nature. These devices have larger screens, variety of mobile apps available, availability of audio and video recording software, advanced processing and battery life. While conducting classroom activities and group discussions with the mobile device, students were motivated as compared to a typical lecture-based classroom learning. The mobile devices have the capacity to connect student and instructor and create more active discussions and more constructive reflection, which includes teacher-teacher, student-student, teacher-student, and student- teacher, what they are discovering is possible with the device. With a device, the classroom is always at the students and teachers fingertips with thousands of educational apps available to download. Mobile Devices and Mobile Apps promote the activity based learning environment to the classroom. It leads the learning process into more fun and meaningful. In the 21<sup>st</sup> century, mobile devices is a boon to the teachers and learners with respect to their pedagogical and learning aspects respectively.

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