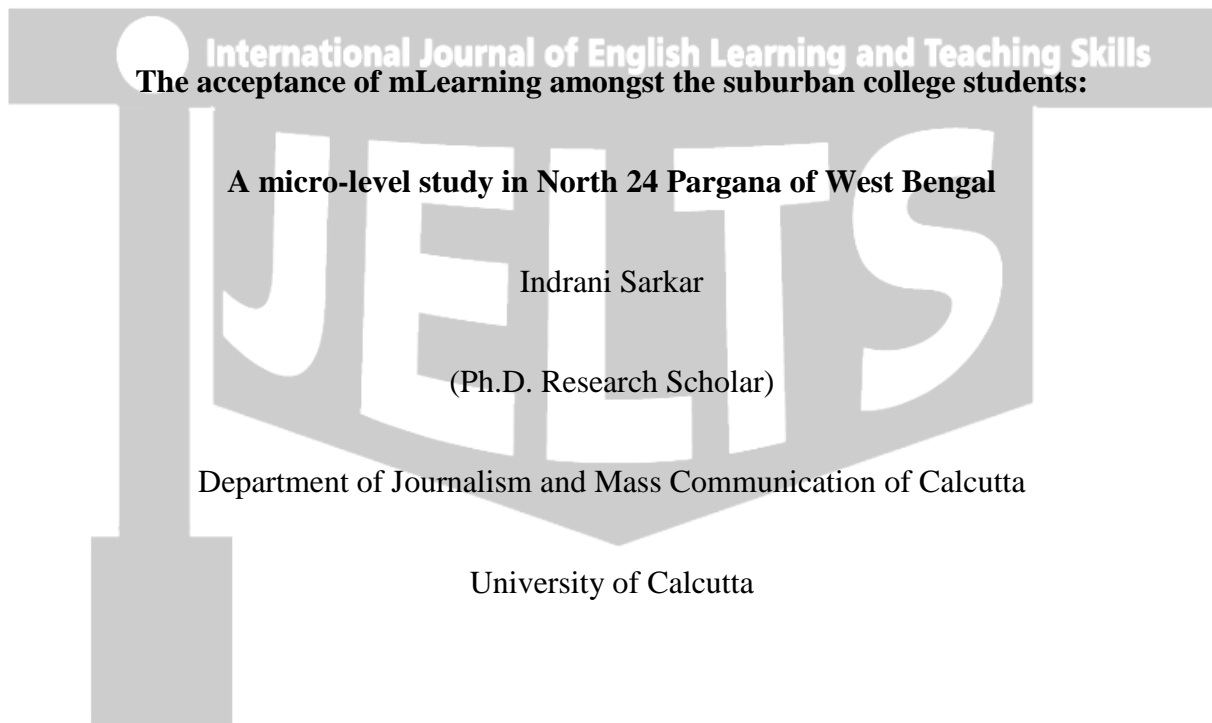


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COLLEGE STUDENTS 1



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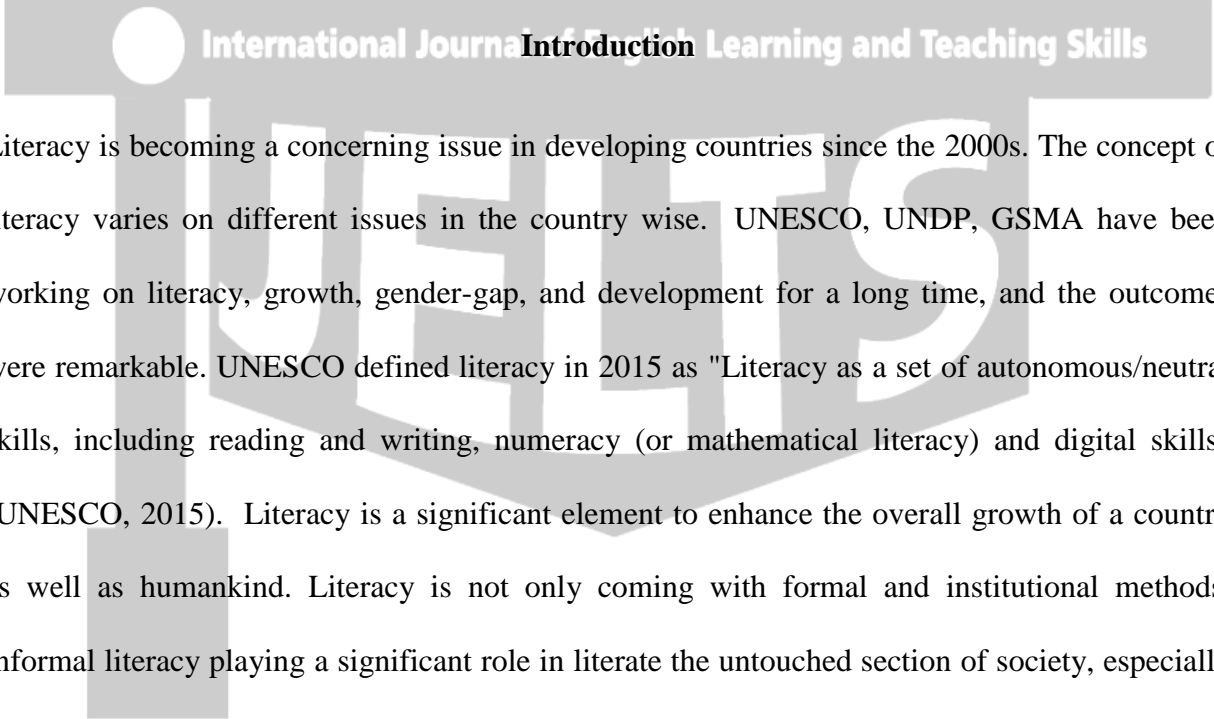
Abstract

The revolution of mobile phones is not merely limited to calling or texting; it has reached almost every sphere of humankind. In this 21st century, studies have claimed that mobile phones' accessibility is comparatively higher than the toilet. Nearly 6 billion people worldwide now are accessing a working mobile handset (UNESCO, 2014). The ubiquitous use of mobile phones brings mobility to its users and helps them accept this ICT based technology worldwide. This new technology of communication also has a remarkable contribution to the educational sector. Its real-time communication makes learning effortless and congenial to the potential learners. This study will explore mobile-based learning technology among the higher education aspirants of suburban colleges in North 24parganas of West Bengal. Suburban students are not getting the same facilitates as metro city students. Besides that, suburban culture and social taboos sometimes make problems to use or access mobile phones by students. However, this will not be focused on the comparison between metro city students and suburban students. Moreover, this study will focus on the usage of mobile phones among suburban college students and to what extent these students are comfortable with the mobile learning method. M-learning or mobile-based learning is "learning across multiple contexts, through social and content interactions, using personal electronic devices" (*M-Learning: Revision History - Wikipedia, 2020*). The benefits of mLearning not only accepted by the students and educational institutions also the Indian higher education departments now have concentrated on this technology for its mass availability, user-friendly access, instantaneous sharing capacity, personalized uses, and Running

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connectivity. In the future, the limitations and barriers of learning can be overcome through mLearning technology.

Keywords: mLearning, Suburban students, ICT, higher education, mobile phones.


International Journal of English Learning and Teaching Skills **Introduction**

Literacy is becoming a concerning issue in developing countries since the 2000s. The concept of literacy varies on different issues in the country wise. UNESCO, UNDP, GSMA have been working on literacy, growth, gender-gap, and development for a long time, and the outcomes were remarkable. UNESCO defined literacy in 2015 as "Literacy as a set of autonomous/neutral skills, including reading and writing, numeracy (or mathematical literacy) and digital skills" (UNESCO, 2015). Literacy is a significant element to enhance the overall growth of a country as well as humankind. Literacy is not only coming with formal and institutional methods. Informal literacy playing a significant role in literate the untouched section of society, especially in developing countries. Studies have shown that mobile phones now become an instrument or tool to provide study material in the adult literacy program and underprivileged sections of society. The reach of mobile learning or mLearning now has been crossed the various field of modern learning systems. Researchers have found that 6 billion people worldwide now access mobile phones, and the popularity of this device has reached almost every sphere of human life. TIME Qualcomm conducted a survey where they found that 84% of the respondents could not even leave their mobile phones for a single day (Ghosh, 2016). UNESCO conducted another

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survey, where they noticed people read more when they have a mobile phone in their hands. A report presented by UNESCO in 2014 claimed that the literacy rate could be enhanced with mobile learning technology. Besides that, mobile phones can overcome the barriers of price issues of the printed textbook and the limitation of accessibility of printed text materials (UNESCO, 2014). The user-friendly technology of mobile phones brings an immense opportunity for its users to learn and become literate.

mLearning (M-learning or mobile learning) methods thrive from 2000. Nevertheless, Alan Kay introduced the concept of mLearning in 1970. Kay joined a research center in Palo Alto, named Xerox Corporation, and formed a group to develop "Dynabook," a hands-on portable personal computer. Though the project was failed due to some technical unavailability, his aims were succeeded. He tried to introduce digital devices' access to children, and it began with his experiments (*M-Learning: Revision History - Wikipedia*, 2020). The mLearning can be defined as "the acquisition of any knowledge and skills through the use of mobile technology, anywhere, and anytime" (Geddes, 2004). It paves the way for a new age of training and education. Nowadays, mLearning moves in numerous fields like in workplaces and inside classroom learning, adult education programs, women literacy, museums, informal education systems, etc. This gamut of mLearning features enables extensive learning opportunities for potential learners (Liu et al., 2010). GSMA introduced another satisfactory definition of mLearning in 2010; they said, "mLearning is the ability to access educational resources, tools, and materials at any time from anywhere, using a mobile device" (GSMA Development Fund, 2010). In this technological era, the user-friendly and modish features of mobile phones attract

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Gen-Y, and they have started to use this device in almost every possible field of their life. Today's youth are using mobile phones not only for communication; they are playing games on mobile phones, accessing social networking sites, doing blogs and vlogs, and searching different e-materials on online platforms via Google or mobile Apps.

Mobile phones now significantly step in the learning process. The mLearning (M-learning or mobile learning) the process opens a new door to the learners. However, computers or Laptops is playing an essential role in the learning procedure. However, this system is more expensive than mobile phones, and many learners could not afford a personal computer or Laptop for study purposes. Using mobile phones for learning purposes now effectively overcome this problem. mLearning can trounce the hindrance of acquiring knowledge through the mobile device. Nowadays, mobile ownership grows globally, and mLearning gradually becomes more viable and accessible to potential learners. Additionally, increasing speed and cost-effective internet connectivity packages unlock more opportunities in this ICT-based digital learning technique. The mLearning is the most attractive way for the new learners, as many potential learners are still far behind to go to school and colleges to obtain a formal degree (UNESCO, 2015). Classroom learning is limited and time-bound, but the mLearning is beyond any limitations and does not have a fixed schedule. Learners can access the learning material at their own convenient time and place. The main feature of mLearning is the ease of its use, personalized and private access. David Parry, in his article, said, "Teaching mobile web literacy seems to me as crucial as teaching basic literacy." David also suggests that teachers should encourage students to use mobile devices as a useful tool for learning, and teachers should make

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their students understand how they can use a mobile phone actively for learning purposes (Parry, 2011).

The geographical perspective and the research purpose

"A suburb or suburban area is a mixed-use or residential area, existing either as part of a city or urban area or as a separate residential community within commuting distance of a city" (*Suburb - Wikipedia*, n.d.). According to Anindita Sen, (2016), "Suburban areas are residential neighbourhoods, though in many Indian cities, commercial development has moved to suburbs because of high real estate rents in the heart of cities. Suburbs surround large cities. These areas are considered ideal for buying residential property because people can live close enough to the city while avoiding the downsides, like traffic, pollution, and crowding". However, city life and suburban life distinct; nowadays, suburban areas are reshaping with the new amenities and facilities of city life. The newspaper Economics Times conducted a survey, showed that the suburb's lifestyle and infrastructure have developed, and the people of suburbs tend to get more opportunities than before. As multi-national companies, housing companies, and IT companies now started investing in suburban areas to develop and restructure the township and lifestyle. (Dewan, 2009).

The students of suburban areas are still not satisfactorily benefitted from the all-modern amenities of city life; the atmosphere of the suburban colleges is also entirely different from metro cities. Moreover, the mobile network in the suburban area is comparatively weaker than cities, and the mobile device's availability is yet to progress. The lifestyle and socio-economic

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culture also vary in suburban areas. This study has been conducted in the suburbs of North 24 Parganas of West Bengal. The north 24 PGS (Parganas) has its own enriched culture and prestigious history. The rich folk culture (Jhumur, Tarjagan, Manasa Vasan, Rayani, Austakgan, Banabibir Pala, Tusu, Patar Bashi, Bhatiyali, etc.) of this district gained nationwide popularity. The North 24 PGS is the birthplace of Sri Bankim Chandra Chattopadhyay, who was the famous novelist and the creator of the national anthem of India "Bande Mataram." Many famous writers (Samaresh Basu, Sanjib Chandra Chattopadhyay, Taradas Bandyopadhyay, Taraknath Das, Ishwar Chandra Gupta, Hara Prasad Shastri, etc.) and singers (Raghab Chaterjee, Shyamal Mitra) were born in this district, and many great histories are associated with the name of North 24 PGS.

North 24 Parganas or North Twenty Four Parganas is a district in southern West Bengal, eastern India. Barasat is the administrative headquarters of this district, comprises five Sub-divisions viz. Barasat, Barrackpore, Bongaon, Bashirhat, and Bidhannagar. North 24 Parganas extends in the tropical zone from latitude 22° 11' 6" north to 23° 15' 2" north and from longitude 88°20' east to 89°5' east. The district is bounded by the Nadia district in the north, South 24-Parganas in the south, Bangladesh in the east, and keeps the Hooghly district, the river Hooghly and Kolkata in the west. The international border of Bangladesh has been situated in north 24 Parganas, spread by 230km in the east. It is the most populated district in West Bengal and the second-most densely inhabited district in India. The district with an area of 4094 sq km has a population of 10009781 as the 2011 census and shows the highest density with 2445 persons per sq. Km. among all the districts in the State. It is the tenth-largest district in the State by area.

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North Twenty Four Parganas has a sex ratio of 949 females for every 1000 males, and a literacy rate of 87.66%, which is highest in West Bengal. (*Welcome to North 24 Parganas / NORTH 24 PARGANAS DISTRICT*, n.d.)

With the highest literacy rate, this district has been incorporated with several eminent colleges with more than ten universities and five famous technical Universities. Thus, the primary purpose of this study is to explore the use of mobile-based learning technology among the higher education aspirants of suburban colleges in North 24parganas of West Bengal. We will also try to map the limitations and challenges of using the mLearning technique in suburban areas. Moreover, this study will focus on how the mLearning becomes an aid to these suburban students in their studies to improve their subject knowledge.

Methodology

The research is Descriptive in nature. The quantitative data interpretation method has been used to analyze the data. To carry this study, we have used two types of data collection methods. For collecting primary data, an online survey was conducted among 152 college students who belong to different parts and colleges of North 24 Parganas. These students actively use mobile phones, and many of them used the mLearning method and mobile apps for their studies. An online Google form was created, followed by a close-ended questionnaire method to collect data. The link was distributed among students of 12 different colleges and Universities of North 24 Parganas through the help of WhatsApp and Email. Also, Undergraduate (UG) and Post

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Graduate (PG) students of 18-23 age groups have participated in this online survey. Besides that, a structured interview has been conducted among 29 UG and PG students to understand the patterns of using mobile phones in their studies and how much they use mobile phones in their daily lives. Within the minimal time, interviews are collected and analyzed. Due to Covid-19 (Coronavirus), the whole country faces numerous issues and lockdown (restriction/ban on movement to stop spreading the virus). We could not visit the respondents personally in this pandemic situation, but we have arranged telephonic, email, and WhatsApp interviews to record the respondents' answers. The respondents voluntarily participate and provide potential feedback in order to complete the study in a coordinated manner. The secondary data was collected through books, journals, published material, and internet-based scholarly articles related to mLearning to review the previous studies.

Review of Literature

The mLearning is a popular fandom in the research area. Since the 2000s, researchers concentrated on mLearning procedures. Several studies have been conducted on mLearning, especially in developing countries (UNESCO, 2014). Because developing countries have many internal and external barriers, which sometimes lay in their people, besides that, people are not getting the same advantages as developed countries. Therefore, most of these studies have been conducted in developing countries to map the literacy rate in this digital world. Nowadays, developing countries adopted the mLearning method and proposed different models to form a

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sustainable learning process among young adults. In Ghana, Margarete Grimus et al. (2012) proposed 'a holistic sustainable m-Learning model' to develop Ghana's educational systems. They have noticed a rapid growth of mobile phones among young fellows of Ghana, but these young people's literacy rate is not satisfying. Therefore, they suggest adopting mLearning techniques to speed up the literacy quest in Ghana (Grimus et al., 2012).

Shakeel Iqbal and Ijaz A. Qureshi carried a study on mLearning in Pakistan, where they found that mLearning is a sprouting process and can grow with the time and needs of students. They have clearly stated that students are interested in adopting mLearning, but few elements create a hindrance. They said, perceived usefulness, ease of use, and facilitating conditions affect students to adopt mLearning (Iqbal & Qureshi, 2012). For successful implementation and solve the issues of mLearning, which can attract the students to accept this method is also depends on the contributions of the different stakeholders like educationist, service providers, institutions, infrastructure provider, usability, etc. (Barker et al., 2005; Grimus et al., 2012; Iqbal & Qureshi, 2012). Thenmozhi, in their study, found that Mobile Learning provides a possible way forward in the development of education programs to significant segments of the population rather than via the eLearning model, which has been adopted in some developed countries. The eLearning method is costly, and types of equipment based rather mobile learning allows cheaper and useful aid of learning. Besides, to enhance learning, mobile phones can help people access other tools, resources, and information, enabling them to participate more actively in their communities and global levels (Thenmozhi & Arul, 2018). Romrell et al., (2014) also said that mobile phones have three unique features: information, people, and practice; these three features making this

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device private and personalized. They said that these three features of mobile phones turn the mLearning into a unique method than the expensive eLearning. The mLearning is useful in perceived near/long-term usefulness and personal innovativeness; these influence its user to adopt this learning method. In China, a study has shown that the intention of using mLearning depends on the perceived long-term usefulness. The researchers also found that the improvement in perceived long-term usefulness makes mLearning successful. Also, mLearning helps in language studying in China and other countries, mainly the English language. Furthermore, studies have found that most users choose English as the medium for learning in Mobile phones (Liu et al., 2010). One of the most significant aspects of mLearning is that it also helps girls and women get education using ICT based mobile technology. In this twenty-first century, women are still considered the second gender in society, especially in LMCs (Lower-middle income countries) and developing countries. It has been noticed by many researchers that women have to face various hurdles in society. Moreover, patriarchy mentality, gender discrimination, low literacy rate, or social taboos for women education are common hindrances for women. These all together inhibit women from using and owning mobile phones. Nevertheless, studies have proven that this device helps women learn English and helps them enhance their social status quo (Tyers, 2012). In 2015, UNESCO carried a study in sub-Sahara Africa (3 projects – Niger, Senegal, Somalia), Asia (5 projects – Afghanistan, Cambodia, Pakistan and two projects in India) and in the Arab States (Morocco) where the researchers found that mobile phone technology and literacy together can bring remarkable changes in terms of empowerment. They have found that mobile learning technology has been increased among women, which notably

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accelerate the pace of women's literacy. In these countries, mLearning has changed the scenario of women's literacy (UNESCO, 2015).

Features of mLearning

A nation's development primarily depends on the literacy rates of its populace. A higher rate of literacy can accelerate the growth of the nation. Nowadays, in the higher education sector, mobile phones play a unique role. With the process of mLearning mobile phones become technological components in higher education. Mobile learning is a mode of learning that offers students irrespective of their time and place. The defining factor is that mLearning refers only to lightweight, small design devices, while eLearning incorporates both computing and teaching platforms, including internet learning. Mobile learning is a modern and evolving platform for education. It is the pinnacle of new technology for all segments of society (poor-rich; educated- uneducated) because of its easy availability. The user-friendly interface makes this device free from time, location, and neighborhood boundaries. While researchers disagree on the concept of mobile learning because of the versatility of both technology and learning itself, Yamamoto (2013) aims to satisfy all features of mLearning in its description of mobile learning. For her, mLearning provides the learners a barrier-free exposure to requisite knowledge. mLearning is also a way to provided education "without breaking apart from life." Nowadays, mLearning is rigorously practicing in a distance learning system. Students can participate in the learning system without any hustle. The ubiquity, portability, and interactive features of mobile phones

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bring mobility to users to communicate, share, learn, and teach at any time from any place (Sönmez et al., 2018). Clark Quinn (2010) identifies "four C's" (Content, Compute, Capture, and Communicate) for analysis of the value of mobile learning technology. He said, "The mobile technology can be used to deliver the Content, including multimedia content. The teacher can use the Computing power of the mobile technology to develop simulation and games and can prompt the learner for data and then process the data. The learner can Capture information for learning and sharing using features such as camera, audio, GPS, sensors, etc. The Communication features of the mobile technology allow the learner to communicate with other learners and with the teacher and to share information". Mobile technology's communication features allow the learner to interact and exchange information with other learners and the instructor (Ally, 2013).

Key feature and benefits of mLearning

The adaptability and ubiquity of mLearning depend on several key features, making it accessible among the new age students.

- MLearning helps those who do not have opportunities to access traditional learning programs. The fundamental feature of mLearning is its ability to act as an alternative to the classroom learning process (GSMA Development Fund, 2010).
- mLearning is a real-time and independent process of acquiring knowledge (GSMA Development Fund, 2010).

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- An individual learner can access a learning facility without the boundaries of time and place.
- The portability and the small size of the device make it easy to use anywhere. Laptop and desktop are bulkier and costly, which becomes a drawback these days.
- Mobility is a significant component in mLearning.
- mLearning can enhance the ease of interaction between the learners and instructor as well as among the peers.
- It has been noticed that many learners use mobile devices as the only medium to access the internet.
- mLearning can be used as a medium for distance learning, and learners across the globe can participate in this process. It has expanded the way for the student-centered learning process too.
- Learners can access study materials without printing them, and they can store the materials in the device or cloud (Internet server) for future access.

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- mLearning can be an effective medium for differently-abled learners (Elgamel & Aldabbas, 2013)

mLearning in Higher education

Students and faculties collaborate, share ideas, and prepare for their lessons with ICT-based mobile technology. It helps them to reduce the physical distance of accessing study materials. In the mLearning procedure, pupils can share their views and opinion with their communities. Besides that, different eBooks, learning materials, scholarly articles, and numbers of learner forums exist in mLearning methods. However, mLearning methods are still not popular in the formal education system, even while mLearning methods can hindrance the hurdle of informal and non-formal education systems in a rural or backward section of the society. Also, women's literacy can be mobilized through the mLearning method. Not only for the school-based learning process, the mLearning now has attracted researchers in many trends. Researchers have found several data and articles through this process. Moreover, the researcher has found this technology convenient to gather secondary data or information for research purposes. In recent times, mLearning becomes an important research topic for researchers. Several kinds of research have been done on how to utilize mLearning technology in the higher education system. mLearning has dealt with mobility from several dimensions: mobility of user-friendly technology, mobility of learners, mobility of educators, and mobility of learning. Wide spectrums of benefits have been brought up by mobile phones, which have become crucial for higher education institutes.

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Nowadays, many world-famous universities and education institutions have designed their interactive multi-disciplinary multimedia courses using mobile learning apps. The learner can access these materials anytime, from anywhere; it has overcome the boundaries of walls and pages. Generally, mobile technology helps students raise their technical awareness, link them to social media, help students find answers to their questions or queries, help in team collaboration, allow knowledge sharing, and leverage their learning outcomes. The mLearning helps students with disabilities and motivates them to access knowledge form remotely through a mobile phone. The mLearning has progressively infiltrate conventional teaching and learning by incorporating the mobile technology Apps, which could be a "new-breath" in almost all classrooms, whether in direct or indirect ways. With the help of mobile phones, the higher education system now encourages the remote learning process known as "out-of-class" settings (Al-Emran et al., 2016; Ansari & Tripathi, 2017; Klimova & Poulouva, 2016).

mLearning in formal and informal education

In the formal education system, the presence of mobile devices is mounting. 1:1(one-to-one) and BYOD (Bring Your Own Device) these two models are most famous for mobile learning in schools. In the 1:1 model, students get supplies with their mobile phones free of cost to the learners or their families, and in the BYOD model, schools arranging mobile phones or subsidizing mobile phones for learner-owned devices. Because many of the students still do not afford personal mobile phones for learning purposes. However, this method is common only among the wealthy communities. Developing countries tried to follow the 1:1 method. Whereas

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informal education, mobile phones, and service providers build a program to educate the backward section of the community and society. Through the informal education system, mobile phones disseminate information about health care, childcare, agriculture, weather, etc. A Nokia life tool is an SMS, and browser-based service provides an opportunity to get information regarding education, agriculture, etc. Nearly 90 million people in China, India, Indonesia, and Nigeria are subscribed under Nokia life tools, and now Nokia tried to deliver more intricate educational experiences to learners via mobile devices (UNESCO, 2013).

Challenges in mLearning

Though we have noticed many benefits of mLearning still, some unseen challenges are remaining there. These are:

- The service provider plays a vital role in mLearning. Sparse networks of the mobile phone can be a fence for information accessing or communicating.
- Changing the pace of technology can be a challenge for mLearning. Besides that, students and instructors must adapt and understand the new user interfaces for using the mechanism.
- The higher cost of mobile handsets, expensive call rates, and internet packs are becoming barriers for mLearning because many students do not have the financial capacity to spend on mobile phones.
- The digital literacy skill of the instructor may play a vital role in mLearning.

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- Since mobile phones have a specific dimension, small size screen can cause problems for the learners.

Findings and discussion

To understand the scenario and acceptance of mLearning among the suburban students of 24 PGS, an online Google survey form, was created to collect relevant data for this study. One hundred fifty-two students participated in this survey and contributed valuable feedback to map the present status of mLearning in suburban areas. It has been noticed during the study that women respondents give excellent feedback in this survey; among 152 respondents, 71.7% are female respondents. Age groups of respondents were 18-21 and 21-23; among 152, 86.8% of respondents belong to the 18-21 age group, and the rest, 12.2% of respondents belong to the age group of 21-23. Therefore, the survey clearly showed that the mLearning method has become more impactful between the ages of 18-21, especially among female learners. The survey found that postgraduate students merely use mLearning for their study than the undergraduate students, 97.4% of undergraduate students use mobile phones for learning purposes, and 96.7% of students have owned their personal handset. We have noticed that almost all the respondents use smartphones (96.7%), which is an ICT-based mobile technology. 61.8% of students agreed that they are using mobile phones inside the college premises, and 87.5% agreed that the mLearning method helps serve academic purposes. This survey found that 53.3% of students marked that mobile phones help them complete their homework and assignments. Though the mobile phone is an interactive device, 85.5% of respondents use it to communicate with friends and teachers. It

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can be assumed that this interaction maintains a healthy relationship between peers and can play a significant role in improving the teacher-student relationship.

Among 152 respondents, 67.8% of respondents are not only using mobile phones for academic purposes, but they have also used for calling (13.2%), social networking, gaming, Internet browsing, entertainment, etc. Therefore, the study showed that mobile phones give various windows to the learners that bring mobility. Besides this, 71.1% of respondents use mobile phones for accessing information, where 9.9% for computers, 9.2% for television, and 9.2% for newspapers. Thus, it can be said that mobile phones can be an essential medium for getting the necessary information these days. The mobility and user-friendly interface of this device make it one of the essential commodities in our daily life. The mobile phone now becomes an inseparable part of our life. In this micro-level study, we have found that 92.8% of respondents agreed to themselves as active users of mobile phones. 40.8% confirm that they are using mobile phones for 4 - 8 hours a day; also, 17.1% of respondents are using more than 8 hours a day, which proves heavy uses of mobile phones among young adults.

The survey also found that students are using mobile phones to access internet facilities; 96.7% of respondents said mobile phones are the only medium for browsing the internet. This study has also found that English is the primary language for using mobile phones (94.7%). However, some of the respondents have marked regional languages like Bengali and Hindi, but most users prefer to use English, which indirectly helps them learn English. The study also noticed that 69.1% of respondents are aware of the negative impact of heavy mobile phone usage; still, they do not consider the threat for the ease of use. The parents of these respondents

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also support them (67.1%) to use mobile phones for learning purposes, making the journey easier for them. Despite all these benefits of mLearning or using mobile phones for learning purposes, the young user has marked some barriers and limitations, which cause hinder in mLearning. Poor network (19.7%), Call cost (9.9%), parental restrictions (9.2%), language, charging issue, social disruption, the cost of data pack for internet, screen size, etc. are the limitations mentioned by the respondents.

Conclusion

Mobile technology will make a significant contribution to the education sector in the future. The new technology of learning is a resemblance to classroom teaching methods. Mobile technology has changed the scenario of learning procedures. It cannot be denied that mobile phones became the primary instruments of the future learning system. This study focus on the adaptability and mobility of using the mLearning technique among suburban students. Thus, this study has found that suburban areas are not underprivileged regarding mobile diffusion, and the numbers of young mobile users increased day by day in the suburban sector. The survey has shown; suburban students are no longer lagging in adapting the mLearning process. Nowadays, suburban students are rapidly accepting mLearning methods for doing their assignments and findings study materials; they have also used this device to interact with their teacher or instructor. They felt that mobile phones help them to build a coordinational relation to the teacher and their peers.

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Therefore, the mLearning process is not a steep walk for suburban learners nowadays, as they are very familiar with the technology.

Moreover, the rapid growth of mobile phones and mLearning brings opportunities to potential learners. Thus, we can conclude that the north 24 PGS students have widely accepted the mLearning methods as an alternative way of learning. The impact of mobile phones on higher education aspirants is genuinely remarkable. Therefore, we can say that mLearning can help to improve and upgrade the entire higher education system in the future. Though mLearning is not free from obstacles (network issues, social disruption, the cost of the handset, and language problem), the government and education institutions should take the necessary steps to resolve these issues. If the institution and higher education authority carefully deploy this technology in the new age education system, then mLearning can bring significant positive outcomes in the future of higher education. With the help of mLearning, nowadays, classroom learning is free from the traditional boundaries of four walls; mLearning proved that learning is an endless and fence free procedure.

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