

Mobile Learning and Education in the Digital Age: A Jalandhar Based Study

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ABSTRACT

Technology is turning the old learning techniques into new one in dramatic pace, resulting new dimensions of learning and personal growth. As technology is becoming mainstream, the learning efficiency will increase, and the training cost reduces. Mobile phones have completely dominated our lives from communication and entertainment to socializing and learning. Mobile learning comes up with a sound approach to address a number of long- standing educational issues. The emerging technologies and tools have paved the way for learning that can harness the power, speed, and ubiquity of digital capability. Learning through digital means adds up to a personalized, transformed, and accelerated learning experience that gives learner power to be in the driver's seat. In today's context, m-learning is considered the latest type of learning introduced as a result of this technological revolution, in which new learning options are provided through mobile applications and access to internet. Mobile learning is a trend in education that is redefining the manner in which learn takes place and instruction is delivered. The purpose of this study is to investigate whether mobile devices are currently used to enhance or support learning in a post-graduate level. A survey has been conducted among university students to gather their response about m- learning.

Keywords: Mobile Learning, Technology, Digital Education

Introduction

Increased development in technology coupled with a range of needs and expectations from a range of stakeholders have made it imperative for educational organizations to constantly upgrade their strategies and policies in teaching and learning as a way to remain effective and competitive. The penetration of information technology (IT) has made learners to become increasingly computer literate. The increased use of these mobile devices like, I-Pad, smart phones, and tablets is an international phenomenon (Goggin, 2006). Students bring these technology anywhere, at anytime for their daily affairs. The concept of 'anytime' and 'anyplace' of mobile learning should be utilized in enhancing the pedagogical activities in delivering lessons. Advancements in mobile technology are rapidly changing the nature of learning by allowing flexible and instance access to rich digital content. Mobile learning (m- learning and further mobile learning apps) can also play a significant role in learning. M- learning is the latest education and training method seems to be the fastest developing in education field compared to the

traditional e-learning. M-learning is the next form of e-learning using mobile technologies to facilitate education for teachers and learners anywhere and anytime (Alzaza & Yaakub, 2011a). The potential benefits of m-learning have been widely touted from a range of purposes, including cost savings, worldwide communications, easy access, study aids, convenience and location-based services. For example, the U.S. government is seeking to reduce costs by encouraging schools to transition from paper-based to digital textbooks within the next five years (Hefling, 2012). Students can communicate with other students and their instructors through text messages. Mobile Apps can be used as study aids (e.g., anatomical models of human organs for medical students) that students can access from virtually anywhere (Young, 2011).

Factors influencing mobile learning in education

There are considerable numbers of factors that motivate learners and educators to use mobile applications. To successfully adopt mobile learning, attention must be given to these influential factors. The researchers analysed and synthesized the factors by looking at the literature in which the mobile devices were utilized as the teaching and learning tools. Thus, the influential factors were classified into three main categories with several subcategories. The three main categories are the features of the devices, user's expectations and pedagogical advantage.

(a). Features of the devices

Features of the devices were further subcategorized into three aspects, namely: usability, technical and functional (Economides and Nikolaou, n.d.).

(b). Usability

From the usability aspect, mobile learning tools are small, light, and portable (Ahonen, Pehkonen, Syvanen and Turunen, 2004; Cavus and Ibrahim, 2009). These features make the learners feel at ease as learning is no longer constraints to the classroom with bulky backpacks containing piles of books and other learning materials. Such freedom makes the process of transmitting knowledge becomes flexible and can be carried out anytime and anywhere.

(c) Functional

Functionally, the devices can provide instant and spontaneous information (Cavus and Ibrahim, 2009; Eteokleous and Ktoridou, 2009; Cohen, 2010). There are times when learners really need to get certain information fast. For example, quick answers to specific questions as definitions, formula and equation. The devices will help the learners to quickly search such information. Continuity is another functional aspect. Mobile learning is a learning model that allows the learners to gain learning materials anywhere and anytime. To be able to continue with the learning without the constraints of time and location is an important element that affects how learners may be motivated to use their mobile applications (Lan and Sie, 2010). Learners' access to information and learning material does not necessarily stop because of their location. Indeed learners can access and interact at various places and in a variety of situations.

(d) Privacy

In comparing mobile devices with other computing devices (such as laptop and PC), of course, the former offers the learners a sense of privacy. Mobile applications provide the private virtual world to the learners that make them feel safe and motivated. Having a sense of privacy will provide many reasons for learners to interact with the device. The learners can access information and download independently from other learners (Ben Moussa, 2003; Zhang, 2003; Virvou and Alepis, 2005).

(e).Fun

Games are considered as an important factor affecting the usage of mobile applications. Prensky (2007) argues that digital games are not just for fun, or for basic review of school subjects, they can also be used solely for learning. The learners learn all the skills that are embedded in each level in the game, become engaged and motivated and do not realize that they are in fact learning. This is where Prensky argues that as learners play the game, they feel a rush and engagement they do not normally feel while 'learning' in school. Thus, these digital games have become the substitute to a world of learning where everything learners learn is old-fashioned, and simply boring.

Review of Literature

Yuen & Yuen (2008) Mobile learning or m-learning is an extended version of e-learning by using mobile technology.

Clark & Mayer (2008) E-learning is defined as learning experiences to support individual learning with various types of computer technologies.

Horton (2006) M-learning embraces many features of e-learning such as multimedia contents and communications with other students but it is unique in terms of flexibility of time and location.

Churchill & Churchill, (2008) The characteristics of mobile devices can be categorized into three categories as:(a) Portability: mobile devices can be taken to different locations, (b) Instant connectivity: mobile devices can be used to access a variety of information anytime and anywhere with instant connectivity facility, and (c) Context sensitivity: mobile devices can be used to find and gather real or simulated data.

Mobile learning and Higher Education

M-learning has the potential to support all forms of education; higher education is a particularly appropriate venue for the integration of m-learning because availability of mobile devices has become very common for college students. Various M-learning attempts have been applied in higher education. For example, college students can receive formative evaluation and feedback from their instructors via a mobile device (Crawford, 2007). A face to-face course can be supported by Quick Response (QR) codes that offer an Internet link to supplemental resources (Grant & Gikas, 2011). Administrative tasks, such

as checking attendance and learning progress, can also be done with the use of mobile devices. Some universities such as Stanford, Abilene Christian, and the University of Washington, have been pioneering m-learning (Keller, 2011), but implementing m-learning in higher education is still challenging because of social, cultural, and organisational factors (Corbeil & Valdes- Corbeil, 2007; Traxler, 2007, 2010).

M-learning's Key Features

M-learning apps have several key features that made it popular among students. These features comprise:

- M-learning apps reduce the barriers of time, place, and distance. It provides learning opportunities to individual learners at their own convenience.
- Mobile technologies potentially create a wide variety of ranges for users that differ significantly from desktop and laptop technologies.
- Some expected benefits of using the mobile device such as mobility which is the primary component of m-learning technology.
- Several access technologies provide Internet access to all kinds of learners via mobile phones
- Mobile network operators probably play the most important role in enabling m- learning services

Research Methodology

The survey method was used for the study. A structured questionnaire was prepared and distributed among students of Guru Nanak Dev University Regional Campus (Jalandhar) students were from various disciplines. Total 100 respondents were surveyed and they were categorised on the basis of gender.

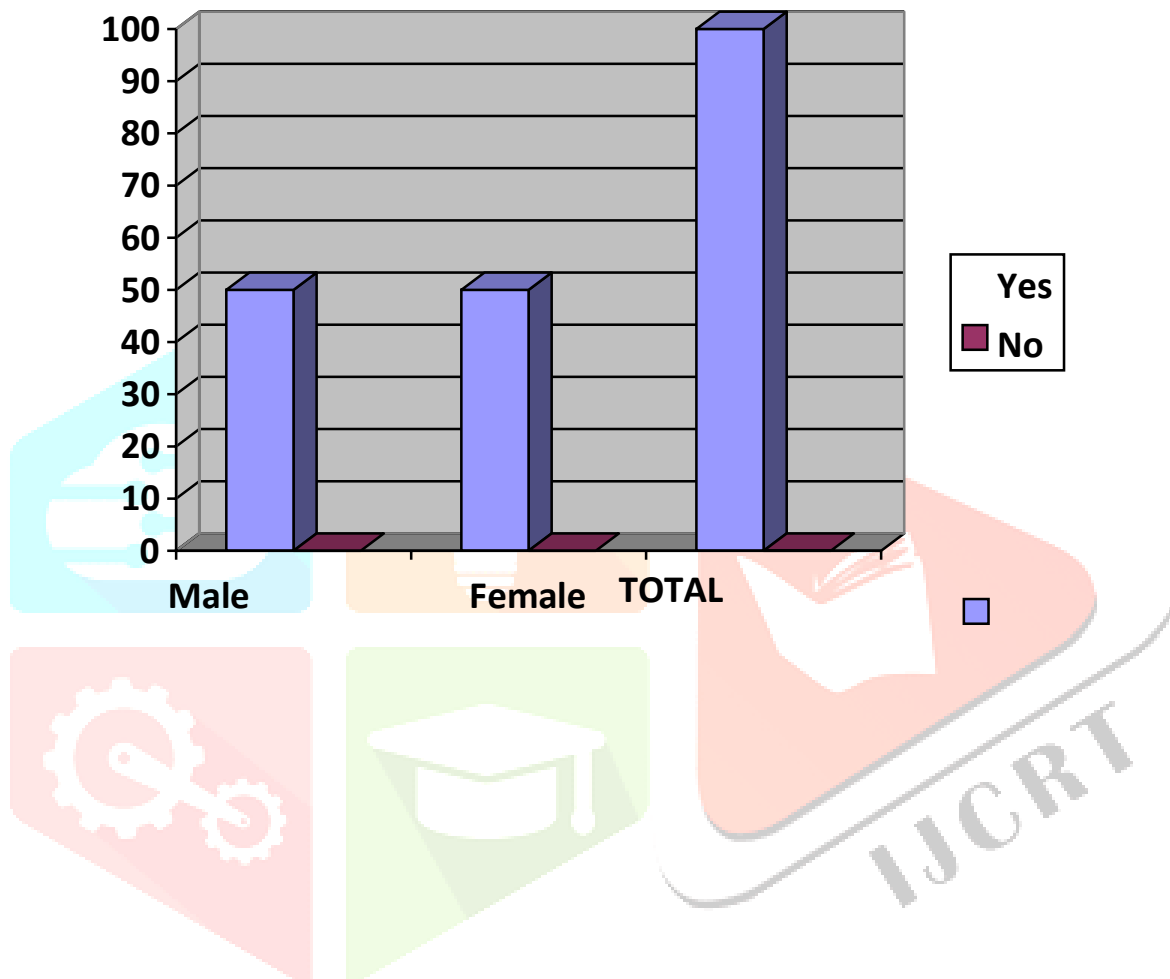
Objectives of the Study

- To study changing trends in the field of education
- To study the growing popularity of mobile learning applications among students
- To examine the changing shift of classroom education to online education **Data Analysis and**

Interpretation

Research Question: Do you own a smart-phone which is capable of accessing internet?

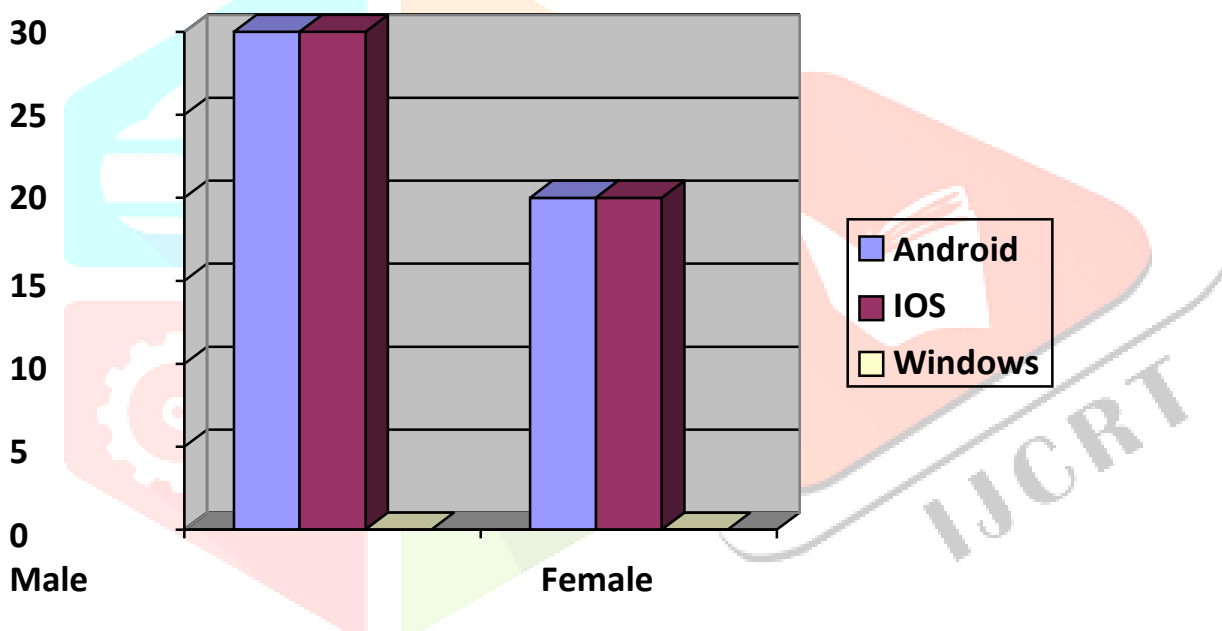
	Male	Female	TOTAL
Yes	50	50	100
No	00	00	00



Smart phones are very useful in many ways and in today’s time it is a must have among everyone .The research revealed that out of 100 respondents 100 participants were having smart-phones.

Research Question 2: Which mobile operating system you have?

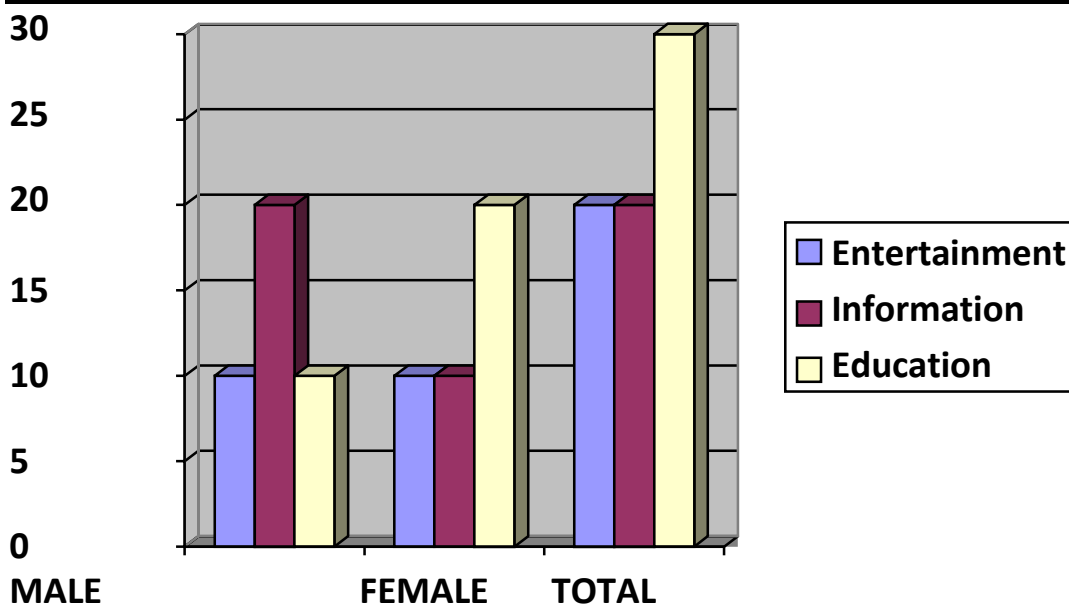
Mobile Platform	Male	Female
Android	30	20
IOS	30	20
Windows	00	00



There are many mobile operating systems available in the market and they have their own features. This study reveals that mobile having android operating system and ios are used most by the students.

Research Question 3: For what purpose you use internet for?

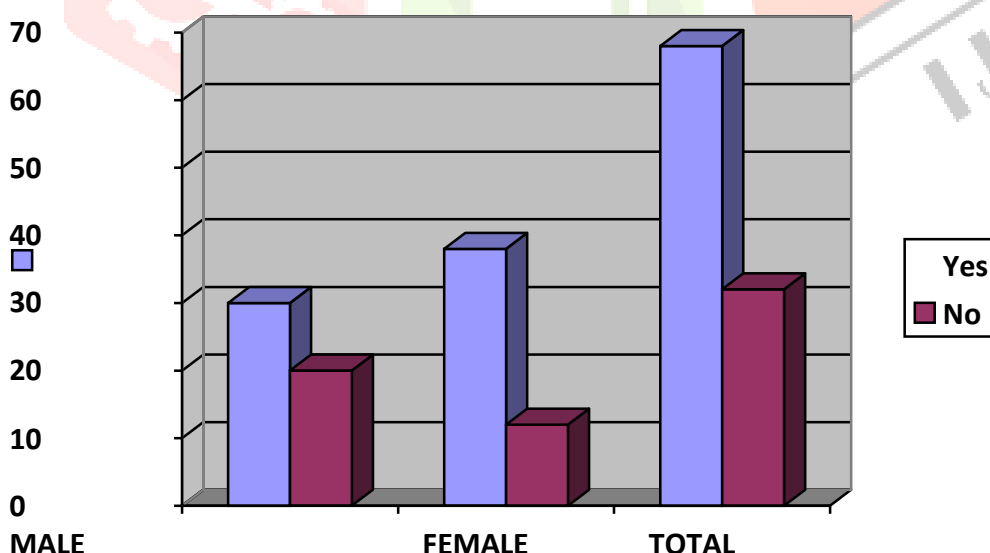
	MALE	FEMALE	TOTAL
Entertainment	10	10	20
Information	20	10	20
Education	10	20	30



Internet has a vast amount of information and people are using accordingly. While measuring it is found that out of 100 respondents (50 males and 50 females) majority of respondents are using internet for education purposes followed by entertainment and information. This is the result of awareness among students and their keen wish to excel in every competition in present competitive world.

Research question: Are you aware about mobile learning applications

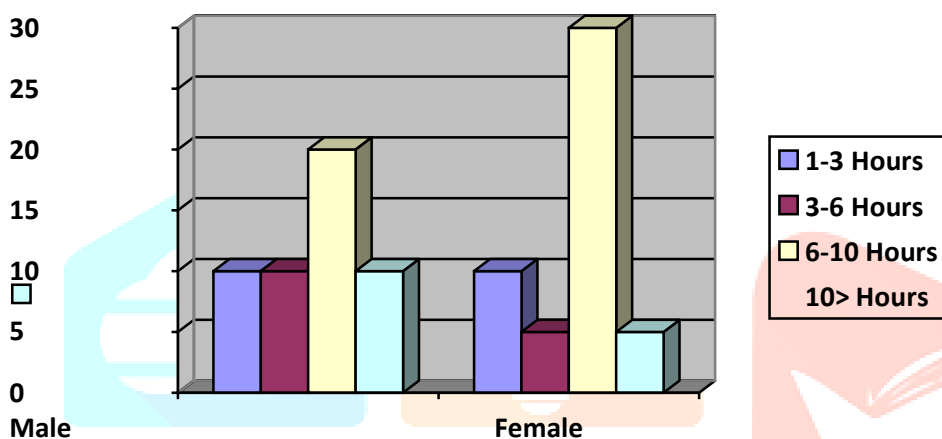
	MALE	FEMALE	TOTAL
Yes	30	38	68
No	20	12	32



Mobile learning application is a mobile based learning platform that is enabling students to learn various concepts with the help of internet and various applications dedicated for learning. These mobile learning applications have gained momentum in recent times as internet and smart phones are available with every individual these days. This research revealed that out of 100 respondents 68% were aware about mobile learning applications and 32% were still not aware about this popular trend.

Q5. How much time you invest in using mobile learning application?

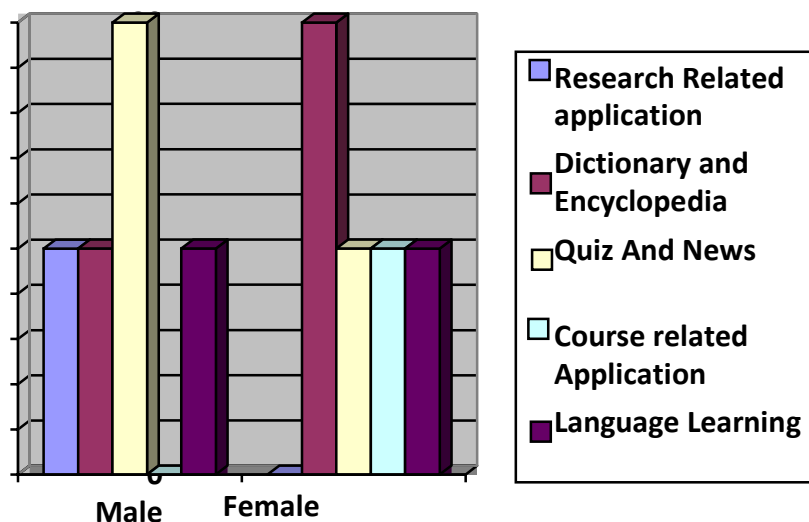
Duration	Male	Female
1-3 Hours	10	10
3-6 Hours	10	5
6-10 Hours	20	30
10> Hours	10	5



Most of the mobile learning applications have no option to logout they keep on operating in the background also its little tough to calculate the total amount individual spent in using these applications. The result is being calculated on the basis of the time duration when they surf these mobile applications for educational purpose about 50% of the respondents use these mobile applications for 6-10 hrs per day. 20% of them uses it for 1 to 3 hrs per day.

Q6. Which type of mobile learning application do you use?

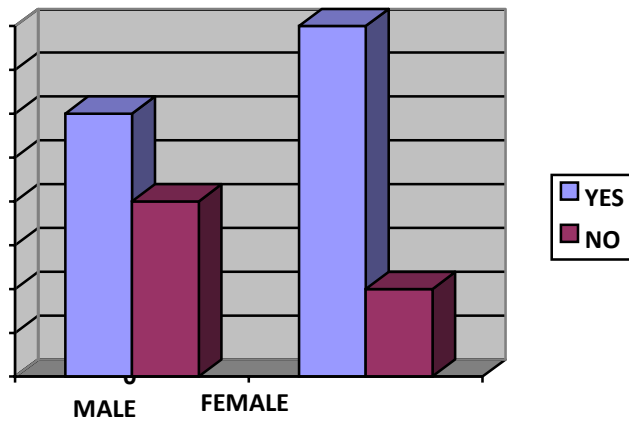
Type of mobile learning application	Male	Female
Research Related application	10	00
Dictionary and Encyclopedia	10	20
Quiz And News	20	10
Course related Application	00	10
Language Learning	10	10



Mobile learning applications are very popular among people for getting help in their studies and research and update their knowledge. Students use different kind of applications for different purposes. Most of the respondents 30% uses dictionary and encyclopedia and other popular applications that was most frequently used by students 30% is application related to news and quiz.20% respondents use mobile learning application for learning languages and 10 % use course related mobile applications.

Q7. Do you find M- learning convenient then other formats of learning?

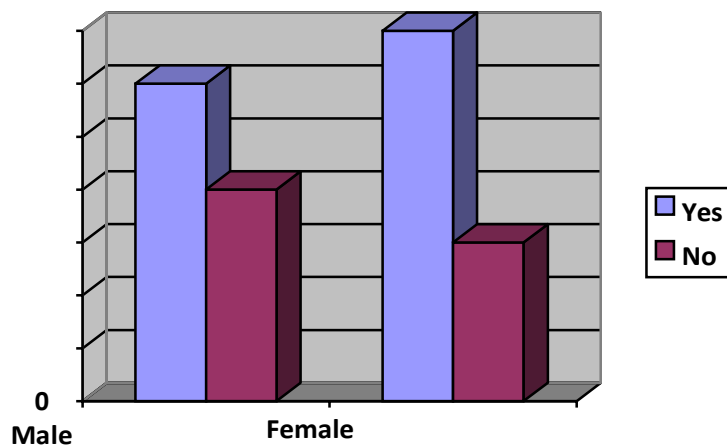
	MALE	FEMALE
YES	30	40
NO	20	10



Mobile learning applications is considered to be very convenient as they are free from boundaries as they can be used anytime and anywhere.70% of the total respondents finds mobile learning very convenient and 30% of the respondents find them inconvenient. This inconvenience can be because of adaptation and lack of technological knowledge.

Q8. Is Mobile learning helps to clear concepts and gives detail knowledge about the topic?

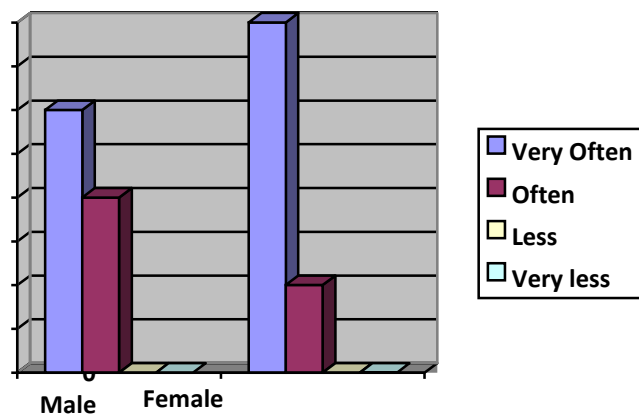
	Male	Female
Yes	30	35
No	20	15



Mobile learning applications serves students from a wide area of internet. The respondents when search about the topic they need information and knowledge they are being served from all available resources on internet. 65% of the total respondents agreed to the fact that mobile learning application helps them in exploring the topic and making the concepts more clear for them. While 35% finds that still books provides deeper knowledge about the concept and topic.

Q9. How often do you search taught topic about your studies in internet through various mobile applications?

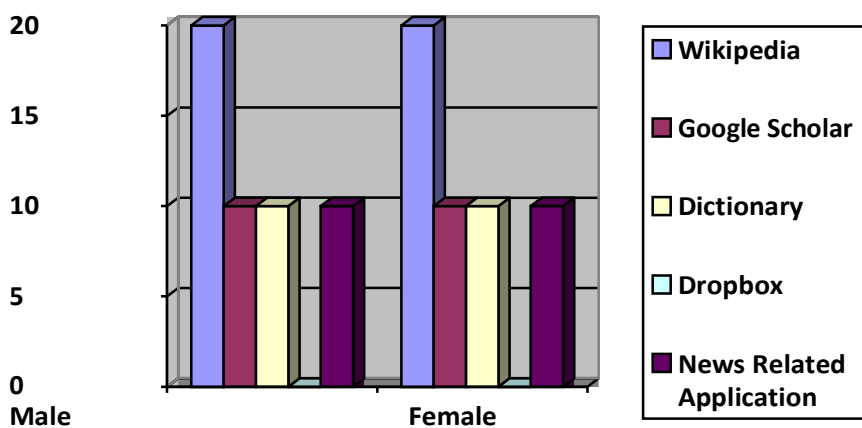
	Male	Female
Very Often	30	40
Often	20	10
Less	00	00
Very less	00	00



Books and libraries are taking back seat nowadays it is because students find that internet is a place from where we can have access to all knowledge with just one click. 70% of the total respondents use mobile applications very often to find information regarding their topic. 30% uses these application but they also rely on books and other resources while there was no respondents recorded who do not use these applications at all.

Q10. Which is the most used mobile applications?

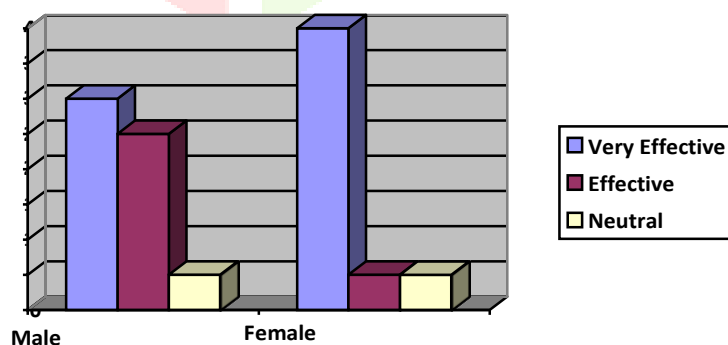
	Male	Female
Wikipedia	20	20
Google Scholar	10	10
Dictionary	10	10
Dropbox	00	00
News Related Application	10	10



There are various mobile learning applications available in the market. Every mobile learning application has their own unique features. People use these applications according to their requirements and usability. When asked respondents about various applications it was found that 40% of the respondents uses Wikipedia as Wikipedia is considered as a storehouse of information. 20% of the respondents uses applications related to news and current affairs, dictionary and Google scholar respectively. Dropbox has still not gained popularity yet as an educational application as it is still considered as a application to store photographs and data.

Q11. How effective do you find mobile learning application?

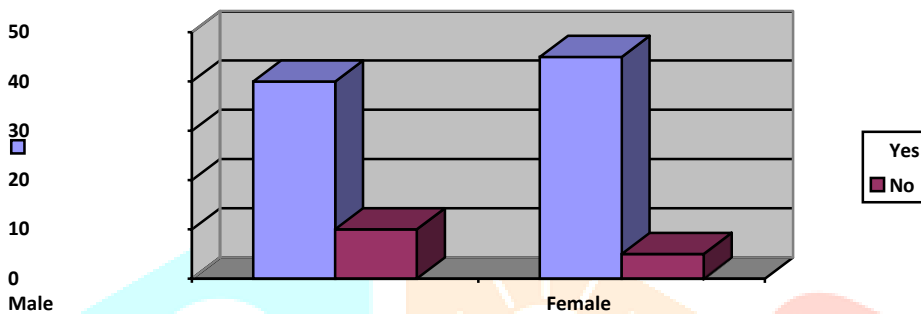
	Male	Female
Very Effective	30	40
Effective	25	5
Neutral	5	5



Talking about the effectiveness of mobile learning applications 70% of the respondents find that mobile learning application are very effective for learning .30% find it effective and 10% were having neutral opinion about the effectiveness of these mobile applications.

Q12. Do you feel that mobile learning application have a great impact on higher education?

	Male	Female
Yes	40	45
No	10	5



A large number of mobile applications are freely available in the market which can be downloaded and used according to the requirement of the learner. Future of these mobile learning applications seems brighter with maximum 85% of the total respondents agreed that these application have great impact on higher education while 15% were in favour that these applications have no impact in education system.

Conclusion

In this era where mobile has taken irreplaceable places in our daily lives, m-learning applications are quite engaging and are getting more positive reviews among students. M- learning applications are providing a learning environment that can be accessed anywhere, anytime. The above study was an attempt to investigate the awareness and usability of m- learning applications among students and how these m- learning applications have impact over the learning process.

The findings represented were from various students i.e. male and female from Jalandhar district. The mobile learning applications are becoming very useful in higher education according to the study. The result also indicated that students nowadays have adequate knowledge about these applications and they are also well aware with the art of using internet for educational purposes. They have incorporated internet in their educational environment very well.

The study was successful in demonstrating that students nowadays are becoming quite active over internet they are not only using it for recreational purposes rather they are using it for educational purposes too. They are quite aware about mobile technologies and internet and how they could be useful in their learning environment. They highly agreed that mobile learning application is benefiting them in

every educational sphere from learning new language to get in depth knowledge about the subject. They keep themselves updated about various news and current happenings through these applications. This study provides clear evidence about how successful mobile learning application is in making their way in existing educational setup.

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