

The Awareness and Usage of Mobile Phone among Students of Dhaka University in Bangladesh

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Abstract: *The use of mobile phone for various purposes (including educational) has increased in recent few years in Bangladesh. Among the various communities in Bangladesh, students are the core purchaser of mobile phone. It enables communication and co-ordination with in a community consisting of human aspect. It has offered new challenges of education. It is a very versatile medium to meet the information needs of students. Knowledge sharing is also done and it became one of the important features of mobile phone. As a result, it has become very popular among the student community. Therefore, the present study was undertaken to find the mobile phone awareness and usage pattern among students of Dhaka University. Study revealed that Dhaka University Students have high mobile phone awareness. Students of science and business faculties are using mobile phone more for educational purpose than arts faculty students. It is also found that female students are using mobile phone more than male students. By lesson through the mobile phone, a student can prepare himself/ herself for the real world.*

Keywords: *Students, Mobile phone, awareness, usage, Educational communication.*

1. Introduction

“Mobile Phone Service” is another name of silent revolution in Bangladesh. It is keeping important role in removing the digital divide. Mobile phone is contributing active role in receiving and sending information. It makes communication easier in both urban and rural people. That is why the penetration rate of telephone in Bangladesh rose up to 540 percent between 1985 and 2000 (Lee, 2001). Bangladesh enters the mobile world through the CityCell Company in 1993. Mobile phone was like a dream among the normal or middle-income group from 1993-1996. Later GrameenPhone, Aktel, Banglalink, TeleTalk and Warid Telecom got license from the government (Rahman, 2012).

In this era of globalization, a world of modern communications is very much important. Mobile phones are especially important given their standing as tools of communication. It increases the availability, frequency and rapidness of our communication surrounding the

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world. It facilitates fast, modern globalization. It becomes an inevitable part of our everyday lives (Jarenfors and sturesson, 2012). For this, it has to realize that there is horrible need for integrating mobile technology in the education. Now, Mobile technology and the concept of m-learning is a growing trend in education. With the latest improvement in the mobile technology, possibilities are emerging to provide educational services via mobile devices such as mobile phones. It embraces the idea of anytime, anywhere, and anybody learning (Dange, 2012).

Mobile wireless, cellular phones, cell phones or hand phones etc. are name of mobile phones. It is a short range, portable, electronic device. It is used for mobile voice or data communication over a network of specialized base station known as cell sites. It provides standard voice function of a telephone (Dange, 2012). Current mobiles phones may support many additional services and accessories such as S.M.S. (Short messaging service) for text messaging email, packet switching for access to internet and M.M.S (Multimedia messaging) for sending and receiving photos and videos. It is linked with music (MP3) playback, menu recording, instant messaging built in camera and ring tones, games, radio, push to talk, infrared and blue tooth connectivity, call registers. It is helpful to watch streaming video or download video for later viewing video calling and serve as a wireless modern for a P.C. and soon will serve as a console of sorts to online games and other high quality games. It connects to a cellular network of base stations (cell sites) which in turn interconnected to the public switch telephone network (PSTN) (the exception is satellite phones).

Wireless communication technologies have become widespread all over the world. In 2006, 90.9% of people in the developed countries and 32.4% of people in the developing countries owned a cellular phone (ITU, 2006; Economides and Grousopoulou, 2008). Many people are mobile-phone subscribers and own devices such as mobile telephones, digital cameras, personal digital assistants and laptops that are enabled with wireless fidelity (Wi-Fi) (Katz, 2005). As the telecommunication industry in Bangladesh is growing fast, the number of mobile phone users is also increasing rapidly. The young generation is the prime customer of mobile phone. To the university students, mobile phone is a part of their everyday life. They use it for various purposes along with for personal communication.

Therefore, regarding the mobile phone awareness and uses of Bangladeshi University students, some vital questions are raised. What are the extents of daily usage of mobile phone? What are the extents of usage of mobile phone for personal communication? What are the extents of usage of mobile phone for educational communication? Are the usages of mobile phone by the male and female students for educational purpose similar? What are the differentiations in the usages of mobile phone by the arts, science and

business faculty students for educational purpose? What are the extents in the usage of mobile phone awareness among students for educational purpose?

This paper seeks to answer these important research questions. Therefore, the present study is undertaken to find the mobile phone awareness level and extent of usage for personnel and educational purpose among the students of Dhaka University.

2. Objectives of the Study

1. To investigate the extent of daily usage of mobile phone.
2. To examine the extent of usage of mobile phone for personal communication.
3. To find out the extent of usage of mobile phone for educational communication.
4. To explore the usage of mobile phone by the male and female students for educational purpose.
5. To analyze the usage of mobile phone by the arts, science and business faculty students for educational purpose.
6. To identify the extent of mobile phone awareness among students.

3. Literature Review

Over the last decade, the mobile phone has penetrated in every sector, presenting many opportunities to many areas, including higher education (Campbell, 2002). MLearning represents a continuation and improvement of distance learning through increased utility and applicability (Keegan, 2002). MLearning enables learning at all times and in all places, during breaks, before or after shifts, at home, or on the go (Sharples, Taylor, & Vavoula, 2005). MLearning, as Visser and West (2005) suggest, can also increase access in those situations where cost represents a significant barrier to learning. For those in rural or remote areas where environmental and infrastructure challenges hinder other learning modalities, particularly eLearning, mLearning presents great opportunities. For the individual learner, mobile technology is much less cost-prohibitive than other technologies like personal computers and broadband connections that are necessary for eLearning. The ubiquity of mobile phones, moreover, means that educational services can be delivered with learners' existing resources. In as much as mobile technology presents a less cost-prohibitive medium for learning, it represents an important avenue by which to reduce the gap between the haves and the have-nots in contemporary society where access to knowledge and information is increasingly important (VanWeert, 2005). It is worth mentioning that students who used e-learning were much more positive to m-learning (Trifonova et al., 2006). As been highlighted by Peters (2007), mobile

technologies can significantly reduce people's dependence on fixed locations, and thus have the potential to revolutionize the way people work and learn.

In fact, some other studies also indicate the potential of mobile technologies in assisting the teaching and learning process in school (Tan and Liu, 2004). The potentials of mobile technologies were studied for English vocabulary learning in secondary schools (Mohamad and Woollard, 2009), English language literature (Rahamat et al., 2011) and mathematics for primary schools (Mahamad et al., 2010). Some studies have found demographic influences on users' readiness for m-learning, such as gender (Trifonova et al., 2006), age (MacCallum and Jeffrey, 2009) and educational level (Nwagwu, 2001). University students were found to be more interested in the benefits of mobile learning (Amin et al., 2009), ready to embark into it (Abas et al., 2009), satisfied with use it, (Ismail et al., 2010), and seemed to prefer game-like mobile learning applications (Hashim et al., 2007). MLearning allows a method of educational delivery that could be more cost-effective than eLearning methods (Motlik, 2008). Valk et al (2010) examines the extent to which the use of mobile phones helped to improve educational outcomes in two specific ways: i) in improving access to education, and ii) in promoting new learning.

Several studies in various countries showed that mobile devices were widespread and they were used by nearly 100% of the young people (ITU/MIC, 2004). SMS was one of the most popular operations. PDAs and smart phones were considered more as business tools and were rarely owned by students (Attewell, 2004). Other studies showed that students were the top consumers of mobile phones and as a result the best audience for mobile applications (MobilEdia, 2005). Economides, A. A. & Grousopoulou, A. (2008) found that students use their mobiles mostly for phone calls and SMS (short message service). They also tend to use their mobiles to take photos and activate the reminder. They use their mobiles to communicate (telephone, SMS, email) mostly with their boy/girlfriend, then with their friends. They use their mobiles mostly at home, then at the University.

The educational advantages of using handheld devices over full-size computers are attractive. Handheld and mobile technologies have a lot to offer in compulsory education (Mifsud, 2004). Moreover, one can also say that there are obvious limitations in the use of mobile devices such as relatively small screen and limited computational power (Mifsud, 2004). According to Switzer & Csapo (2005), digital technologies should be utilized in the business education and curricula. The use of Internet in University education is at early stages and many problems still exist (Cheung & Huang, 2005). The use of new media increases students' interest in particular activities, but the devices are mainly used for communication via voice calls and text/picture messages (Trifonova et al., 2006). Regarding the handset upgrades, previous usage habits may play a far more

important role in post-upgrade usage behaviors than incremental technical capabilities (Sugai, 2007).

Most scholars agreed that the gender gap in Internet use had narrowed significantly in the college age group (Goodson et al., 2001; Odell et al., 2000) as well as the general population (Brenner, 1997; Jackson et al., 2001). However, some gender differences had been found in attitude towards technology, intensity of Internet use, online applications preferred and experience in cyberspace. Gender difference was also found regarding the use of web applications. Male college students were more likely to use the Internet for recreational purposes, information gathering and entertainment while females preferred to use the Internet for communication (Shaw & Gant, 2002).

Furthermore, females tended to be social as they used e-mail and instant messaging more than their male peers (Media Report for Women, 2000). Also, they stated that the electronic mail messaging was the most important function of the Internet (Wilson, 2000) and actually used the e-mail more than males (Boneva et al., 2001; Jackson et al., 2001). Another survey reported that females made more cell phone calls and sent more SMS messages than men did. Also, teenage girls used their devices more frequently so as to express their feelings while boys were more interested in the technical aspect (Doring et al., 2004).

Saunders & Quirke (2002) stated that males expected the new technology to offer to them easy and quick answers and they worked alone or sometimes even in pairs. On the other hand, females were interested in the quality of the product and they preferred interactive group work. It is worth mentioning that females tended to study online more than men as online learning may be appropriate for women's lifestyles and they were also more likely to look for further views of education (Selwyn, 2006). Moreover, Selwyn (2006) reported that as the current situation changes, educational technology can be seen as a predominantly feminine activity.

Previous findings on gender differences in the use of cell phone are mixed (Bianchi & Phillips, 2005). Females were also more likely than men to make and receive more family-oriented as well as social-oriented calls (Wei & Lo, 2006). This social use of the cell phone among females is congruent with previous findings on the use of conventional telephones (Smoreda & Licoppe, 2000). In addition, females consistently displayed higher levels of attachment to their cell phones (Geser, 2006). Females spent more time talking on the cell phones than men (Junco, Merson & Salter, 2010).

Regarding the overall time spent on the cell phone and problematic cell phone use, however, Bianchi and Phillips (2005), failed to identify any significant relationship with gender, concluding that the cell phone is a gender neutral device. Economides, A. A. &

Grousopoulou, A. (2008) analyzed the use of mobile phones by male and female Greek students. They found that there was not a statistically significant relationship between genders and their preferences.

From the discussion of the above literature, it is clear that most previous studies examined the penetration rate, the reasons for owning (e.g. safety, fashion, social status, relationships, loneliness, freedom) and the effects (e.g. addiction, distraction, gratification, psychology) of mobile phones. There are few studies regarding gender differences in the use of mobile phones. Some of these studies found gender differences, while others did not find any gender differences.

Another studies investigated the use of mobile phones regarding only some popular functions (talking on the phone or sending/receiving SMS). Other studies investigated the use of mobile phones for communication with specific persons (friends or family). A few studies investigated the use of mobile phones in specific places (e.g. school).

The use of mobile phone has increased in recent few years in Bangladesh. Mostly students are the core purchaser of mobile phone. They use mobile phone for various purposes including educational purpose. The students of University of Dhaka are exceptional than those of other universities in Bangladesh. It is a matter of concern that how they make use of their mobile phone and how much aware they are about this device. However, no significant research has been conducted on the awareness and usages of mobile phone among Dhaka University students.

This research has scope to investigate the awareness and usages of mobile phones among Dhaka University students. Therefore, the present study was undertaken to find the mobile phone awareness level and extent of usage for personal and educational purpose among students of Dhaka University of Bangladesh.

Hypothesis

1. There is no significant difference between male and female students in the usage of mobile phone for educational purpose.
2. There is no significant difference among arts, science and business faculty students in the usage of mobile phone for educational purpose.

4. Methodology

The strategy adopted for this study is the personal interview survey. Considering the nature of the present study, a combination of structured and unstructured interview schedules was developed in order to explore both quantitative and qualitative information

for collecting the students' views and different means of mobile phone usage in learning at higher education. Dhaka University, a famous university of Bangladesh was chosen as study area for this study. Sample size determination formula is used for identifying total number of samples. Sample size determination method:

$$N = \left[\frac{p(1-p)z^2}{d^2} \right] \times deft$$

N=size of the sample

p=the proportion to be estimated=0.5

z=value of standard normal variate=95% level of significance=1.96

d =the amount of tolerated margin of error=0.0693

delt =design effect=1.5

$$\text{Number of sample} = \left[\frac{0.5(1-0.5)(1.96)^2}{(0.0693)^2} \right] \times 1.5 = 300$$

300 borrowers were selected as sample for interviewing. At first target population is divided into mutually exclusive and collectively exhaustive subpopulation or cluster. That means six clusters (faculty as cluster). Random sample of cluster (faculty as cluster) is selected based on probability sampling technique. Here, three (faculty as cluster) clusters are selected as sample by using probability proportionate to size sampling method from six faculties. All students in each selected faculty (cluster) could not be included in the sample because of time and cost constraints. For this reason, probability proportionate to size sampling method is used for selecting number of borrowers from each faculty. Each student is selected by using systematic manners of simple random sampling method. Data were collected on relevant variables from primary and secondary sources. Primary sources included students of Dhaka University. Secondary data have been collected from the published contents of the relevant brochures, admission figures, prior research reports of the university internal sources and suppliers and different kinds of Journal. The present study is descriptive in nature and adopted the survey method. Both structured and open-ended questionnaires were used to collect the responses. The format of structured questionnaire was multiple-choice questions.

In the present study, the researcher has selected stratified random sampling technique for the collection of data. In this study student of Dhaka University of academic year 2012-13 was selected as a population. The sample includes 300 students (100 Science, 100 Arts and 100-business studies faculty) and equal gender ratio was maintained. The major variables of present study are usage and awareness of mobile phone and demographic variable like students' gender and faculty.

5. Data Analysis

Several frequency distribution tables and figures were used to show the mobile phone awareness level and extent of usage for personal and educational purpose among students of Dhaka University of Bangladesh.

5.1: The extent of daily usages of mobile phone by the students

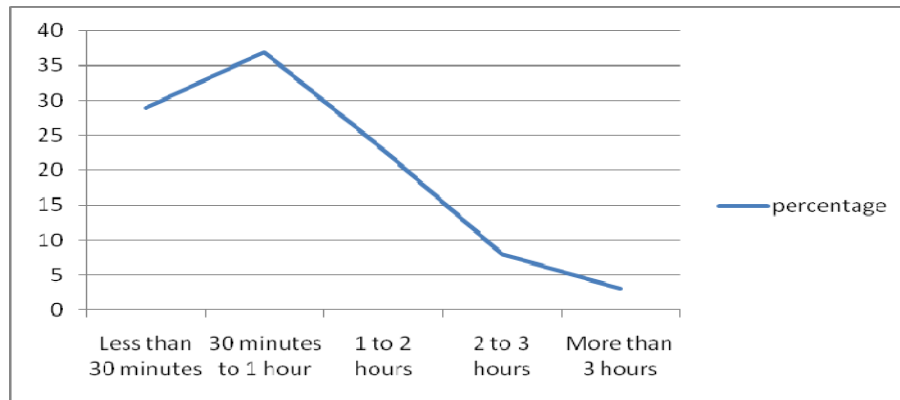


Figure-5.1: Time spent on mobile phone by students per day

From the figure 5.1, it is observed that 29 % students spent their time on mobile phone for less than 30 minutes daily. Further 37 percent students spent 30 minutes to 1 hour, 23 percent student reported 1-2 hours, 8 percent students reported 2-3 hours and 3 percent reported they use mobile more than 3 hours per day.

5.2: The extent of usages of mobile phone for personal communication

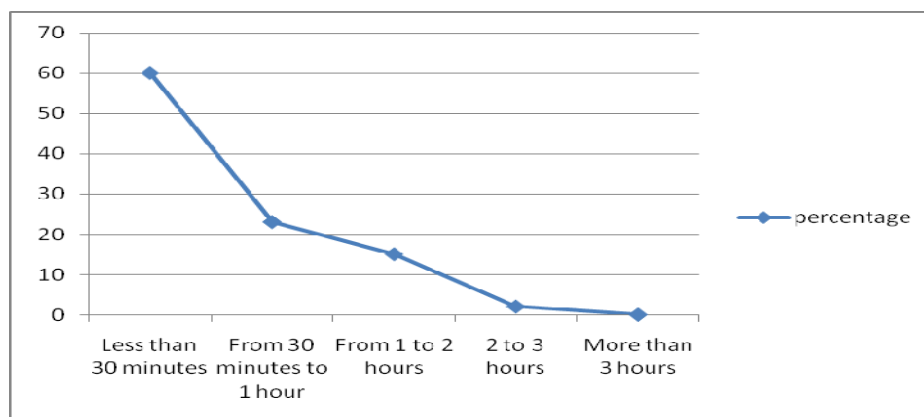


Figure-5.2: Time spent on mobile phone for personal communication per day

It is observed (figure 5. 2) that 60% students spent their time on mobile phone less than 30 minutes, 29% students reported 30 minutes to 1 hour, 15% students 1-2 hours, 2% students reported 2-3 hours, and 0% of the students reported more than 3 hours for personal communication.

5.3: The extent of usage of mobile phone for educational communication.

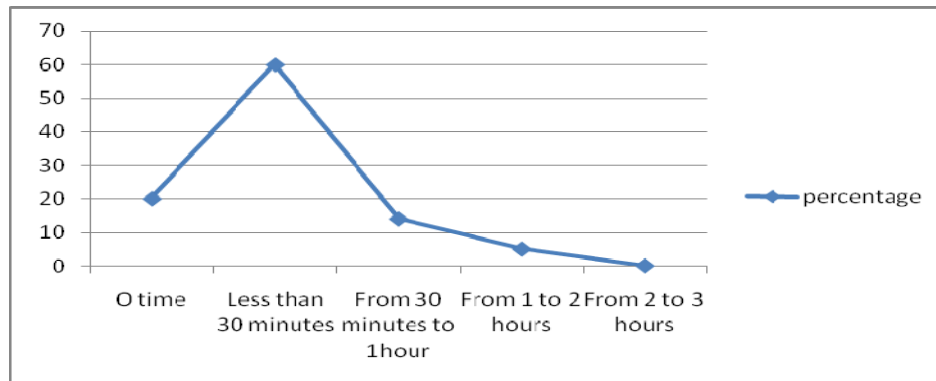


Figure -5.3: Time spent on mobile phone for educational purpose per day

It is observed (figure 5.3) that 20% students reported that they spend no time on mobile phone, 60% reported less than 30 minutes in a day, 14% students reported 30 minutes to 1 hour, 5% students 1-2 hours, 0% students 2-3 hours, and 1% of the student reported more than 3 hours for educational purpose.

5.4: The usage of mobile phone by the male and female students for educational purpose.

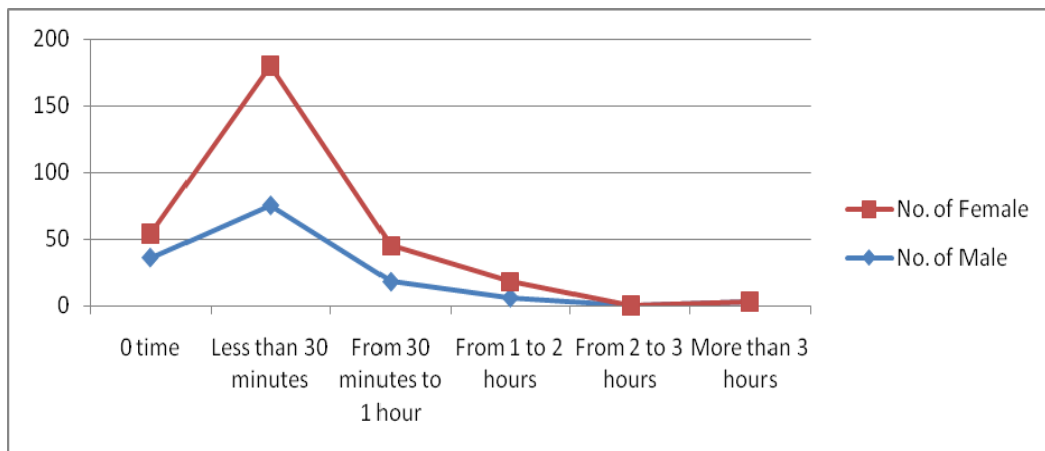


Figure -5.4: Usages of mobile phone by male and female students for educational purpose

The figure 5.4 shows that male students significantly differ from female in respect of their usage of mobile phone for educational purpose. Gender variations are evident in usage of mobile phone among the students of University of Dhaka. Female students' usage of mobile is more than that of male students for educational purpose.

5.5: Usage of mobile phone by arts, science and business faculty students for educational purpose

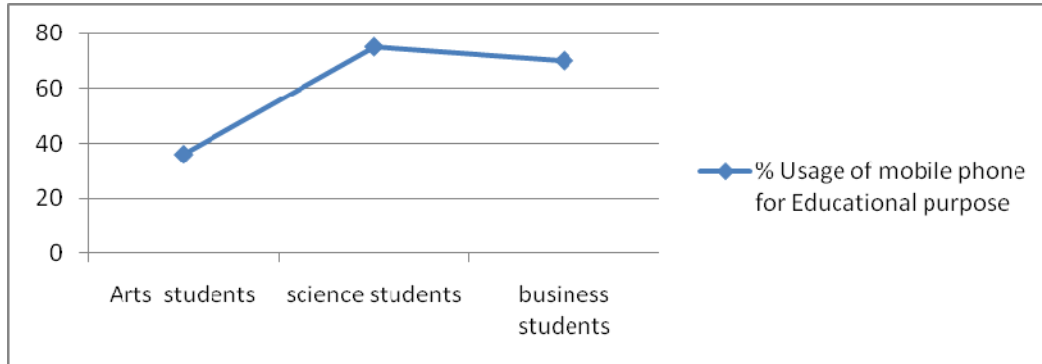


Figure -5.5: Usages of mobile phone by arts, science and business faculty students for educational purpose

It is observed (figure 5.5) that 36%, 75%, and 70% arts, science and business faculty students' usage of mobile phone for educational purpose respectively. The above table shows that science and business faculty students significantly differ from arts faculty students in respect of their usage of mobile phone for educational purpose. Science and business faculty students' usage of mobile phone for educational purpose is more than that of arts faculty students.

5.6: The extent of mobile phone awareness among the students

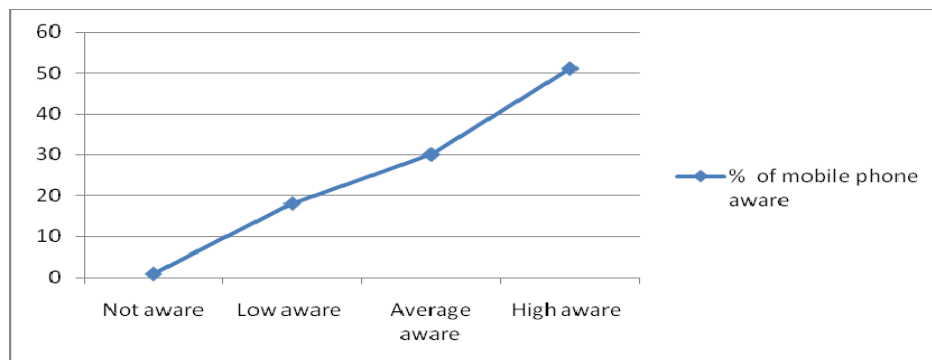


Figure -5.6: mobile phone awareness among the students

From the figure 5.6, it is observed that 1% student not aware, 18% students have low awareness, 30% students have average awareness, 51% students have high awareness for using the mobile for education.

6. Major findings:

- The maximum students used the mobile phone daily from 30 minutes to 1 hour and less than 30 minutes for personal communication.
- The maximum students used the mobile phone daily from 30 minutes to 1 hour and less than 30 minutes for educational communication
- The usage of mobile phone by female students' for educational purpose is more than that of male students.
- both science and business faculty students had the high awareness regarding the usage of mobile phone for educational purpose
- The science faculty students' usage of mobile phone for educational purpose is more than that of arts faculty students.

7. Educational implications:

Mobile phone helps the students to know the different applications and usages of mobile phone for educational purpose. Major applications such as message services, computation, radio, video, TV reception, m-paper and wide applications of internet, through mobile phones can be integrated in the learning process. It helps in achieving new means of educational delivery systems, new dimension for learner education interaction and cognitive, social process of student learning. It helps to develop the awareness regarding the usage of mobile for education purpose. The latest applications of mobile like IP based, VIOT, GPRS helps the students and teachers to get the up-to-data information about the subject matter.

8. Conclusion

According to the above analysis, it is reached to the conclusion that mobile phone is a very important device for student's everyday life. It is expected that, due to creation of new technology, the size of the mobile phone will be reduced and the screen size can be enlarged. By lessons through the mobile phones, one can prepare the students for the real world and one can virtually mobilize towards success. The mobile phone technology will replace most of the electronic instruments and play a major role in virtual Universities,

m-learning and e-learning. Female students' used mobile phone for educational purpose is more than that of male students.

Both science and business faculty students had the high awareness about the usage of mobile phone for educational purpose. The science faculty students' used mobile phone for educational purpose is more than that of arts faculty students. In general, the mobile phone technology in future is like a canal and its functions and application is like an ocean. Therefore, Universities need to become leaders in applying technology to daily life and education. Students have to learn how to use all the device's features and they need support and help to be successful in this.

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