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Mobile Phone In Education: Undergraduates' Experiences

Dr. Mubashrah Jamil, Department of Education, Bahauddin Zakariya University, Multan
Email: mubashrahj@yahoo.com
Dr. Keith, J. Topping, School of Education & Social Work, University of Dundee, UK
Email: k.j.topping@dundee.ac.uk
Dr. Jamil Hussain Shah, Department of Education, Mohi-ud-din Islamic University, AJ&K
Email: jamilshah@email.com

ABSTRACT
Mobile phones (MPs) are the raising technological tools amongst the teachers and students especially at higher educational institutions. MPs sizes and features enabled the teachers and students to use it for teaching and learning purposes to anywhere and anytime. Therefore the main purpose of this study was to explore the attitudes and possible or actual uses of mobile phones by undergraduate teachers and students in general and specifically for educational purposes. By keeping all of the features and their applications by teachers and students, a survey was designed to explore the andragogical experiences of university teachers and undergraduate students. The study was descriptive by nature; therefore, simple percentages, charts and Chi Square tests were used to draw the conclusion. From the results it was found that MPs are vastly being used by both teachers and students. Comparatively, students were found to be more enthusiastic than to teachers. But both believe that MPs are useful device to share teaching and learning experiences.
KEYWORDS: ICTs, mobile phone in education, educational technology, mobile learning, mlearning

INTRODUCTION

The use of information and communication technologies (ICTs) in education and instructional training programs begin in the First World War when B. F. Skinner and James Finn introduced programmed instruction methods during fifty's (Luppicini, 2005). Today, ICTs are emerging and indispensable tools especially for managing and teaching huge number of students either within or out of the boundaries of the institution. For students, ICTs not only provide flexible learning environment but also enhance their level of understanding and attainments. On the other side, ICTs help the teachers to become active, creative, stimulate and manage students learning activities by inculcating different teaching styles to achieve their educational goals (Anderson, Weert, 2002). Educators demand more effective, flexible, interactive, flexible and just-in time instructions (Jamil, Topping, and Shah, 2012). According to Valk, Rashid, and Elder, (2010) 'ICTs can empower teachers and learners by facilitating communication and interaction, offering new modes of delivery, and generally transforming teaching and learning process'.

Within the range of other ICTs, mobile phones (MPs) are raising technology in higher educational institutions. Advanced MPs are very popular amongst the users because they are wireless and portable (Osman, El-Hussein and Cronje, 2010). MPs such as cell phones, smart phones, and PADs with interesting features such as simple text messages (SMS), multimedia messaging services (MMS), interactive games, radio, camera, video, memory, MP3 player, Internet, voice recorder, video calls, personal organizer (i.e., diary, address book) and possibility of copying and transferring files enabled teachers and students to use these for teaching and learning purposes to any where any time (Hussein, Nassuora, 2011). According to same authors, these MP features are used in class surveys/questions, in-class media sharing, attendance monitors, distant privileges libraries, peer locator, notification of the security, downloading audio or video lectures, reading e-books, audio books, reconsidering course study and preparing for exams, sharing results, adding a microphone to their mobile to capture material for educational use are the several reasons to continue using them in educational institutions.

MPs are helpful in building teacher-students relationships, raise thinking skills, self-confidence of learner, promote collaborative learning activities and improve learners' engagement (Zulkafly, Koo, Shariman and Zainuddin, 2011). Zulkafly and et al., defined mobile learning as a process of 'teaching and learning through the facilitation of mobile technology and its environment with portable devices such as PDA, smart phone and mobile phone'. In the same directions, Katz (2003) divided MPs communication benefits in education at three levels: (a) operationally: manages class attendance and administration in more effective manners, (b) time management: enhance coordination between teachers and students and (c) resources: it provides students with greater access to course and supplementary educational resources. Beside of these three levels, Katz also criticizes that MPs are source of cheating, harassment and promote criminal behavior amongst the users.

It was generally observed by the researchers at their home institution that almost every teacher and student in the university had their MPs and were using them because of many reasons for example: fastest communication

device (either through call or SMS/MMS), relatively inexpensive (i.e., to other ICTs), reduced size, ease to portable, use of Internet, games, calendar, audio and visual recordings. Unconsciously and/or sometimes consciously they were using their MP for educational purposes as well. According to Waycott and Kennedy (2009) "it is important that researchers and practitioners who incorporate everyday or social technologies into educational settings evaluate and publish findings about the success and challenges involved in order to buildup empirical evidence about what works and what doesn't". Therefore, inspired by this quotation and the study of Hussein & Nassuora and also the frequent use of MPs by both teachers and students motivated the author to finally conduct a survey regarding the general use of MPs and their attitude towards the use of MP in education. Following to this, a brief literature review is presented which helped the author to understand the pedagogical usage of MPs and to conduct this study.

LITERATURE REVIEW

Bethel (2010) study reflected affirmative applications of mobile phones by the students in the subject of journalism. Author distributed a questionnaire three times to the students of journalism of semester one in Deakin University, Australia:

1. In April 2007 – 245 out of 338 completed and returned.
2. In May 2008 – 128 completed the survey of a total of 227 students.
3. In April 2009 – 204 out of 334 completed the survey.

Students were asked to encircle Yes/No and respond to multiple-choice questions about aspects of their mobile phone usage in past 12 months and occasionally to add more detailed information in open-ended responses. Bethel finds that phone is primarily used for communication device. Through survey he explored that 99.8% students were using their phones for SMS, 90% reported taking digital photos, 70% were taking videos, 70% did not differentiate between digital photos or movies, 60% were sending MMS, and 32% reported they access information on web. Through findings, author concluded that journalism students already have experience of some basic, quasi-journalistic skills. Students were gathering news by taking photos and video and also publishing by passing these photos and videos on, using mobile phone technology. They are using the phone as a multimedia communication tool, communicating by text and voice as well as by video in some cases.

Valk, Rashid and Elder (2010) have reviewed the role of mobile phones in contributing to improved educational outcomes in the developing countries of Asia i.e., Philippines, Mongolia, Thailand, India and Bangladesh. The authors abstracted from the literature that the impacts of mobile phones on educational outcome could be classified into two broad categories: (a) supposedly, mobile phones improved the access of education while maintaining the quality of education delivered and (b) purportedly, mobile phones facilitated alternative learning processes and instructional methods collectively known as new learning. To confirm or refute these impacts of mobile phones in education, authors identified relevant mLearning pilot projects by conducting an internet search. As a result they found 6 projects in 6 different Asian countries met the fixed criteria of search. After an analysis, they concluded from the projects of Philippines, Bangladesh and Thailand that mobiles can reduce barriers to education while attaining educational outcomes that are, at minimum, comparable to those of traditional educational methods. Feedback from the participants of Bangladesh, Mongolia and Philippines indicates that mLearning enable learner-centered education particularly in comparison to traditional distance education model. However, the India project also produced some contradictory evidence regarding to the benefits of mLearning for those who have not succeeded in traditional educational settings.

Al-Fahad (2009) surveyed students' attitudes and perceptions towards mobile learning in King Saud University. A questionnaire was distributed among 186 undergraduate students' of age 18 – 26 years. Responses were measured on a likert scale of 1 to 5, ranging from "strongly agree" to "strongly disagree". Scores greater than 3.0 indicate relative importance, below 2.0 indicate relative unimportance, and scores between 2 to 3 showed to be neither important nor unimportant. Mean scores of the sample indicate that more than 50% of respondents strongly support "mobile phone learning as an effective method for learning", "mobile technologies are more flexible and enable students greater freedom of learning any place, any time", "high cost involved in owning and using mobile devices for mobile learning", and "mobile phones can be used to enrich students' learning environment by providing timely information". Moreover, 96.8% were using mobile phones for displaying photos, 79.6% use alarm, 78.50% use it as organizer, 19.4% download email, 22.0% read news papers and 15.1% watch movies on their mobile phones. Al-Fahad concluded that mobile technologies are perceived as an effective tool in improving communication and learning but these technologies are not yet popular due to cost involved in owning and using such technologies.

Waycott and Kennedy (2009) conducted and empirical research which was aimed to examine 799 undergraduate students' reactions to a learning activity i.e., capturing and sharing science images in everyday world; in which mobile phones and web 2.0 were used as technological tools. The chemistry *Flikr* project (i.e., which was one of

the series of case studies that were conducted as part of large Australian collaborative project) took place in first semester 2008 with students of The University of Melbourne. It involved four independent learning tasks in order to pass the subjects. *Flikr* were chosen from a small number of photo file sharing web sites that enable students to upload photos in a shared space by using their own digital cameras or camera phones. At the end of this activity students were required to complete an online five-point likert scale questionnaire. They concluded that some of the students who participated in the evaluation felt the activity was worthwhile and beneficial in terms of sharing knowledge with peers. However, some students responded that the relevance of the activity to their formal learning was not immediately apparent. Waycott and Kennedy also suggest that care should be exercised when examining the appropriateness of everyday technologies for the appropriateness of learning.

A brief literature review helped and directed to design survey tool, method of conducting an empirical research to provide evidences about how mobile phone (MP) technology is being incorporated in andragogical activities by the undergraduate students.

PURPOSE OF THE RESEARCH

The purpose of the study was to explore the attitudes and possible or actual uses of mobile phones (MPs) by undergraduate teachers and students in general and specifically for educational purposes.

METHODOLOGY

The study was conducted in the main campus of Bahauddin Zakariya University, Multan established in 1975 located at a distance of 10 km from the city center. All teachers (392) and undergraduate students (1197) from semester 3, 5 and 7 for year 2012 constituted the population of the study (Prospectus of Bahauddin Zakariya University, Multan, 2011). Questionnaire was developed to collect the required information from the said population. Total 220 questionnaires were distributed among the teachers on the basis of their availability in their offices; out of which 187 (85%) were recollected successfully. In case of students, questionnaires were distributed in their classrooms. Therefore, it was possible to recollect 983 (82%) responses from the students present in the class at that time.

Questionnaires for both teachers and students were designed after literature review. All items of the questionnaire were couched in relation to issues emerging in literature review. The methodology and format of the questionnaires followed the study of Hussein and Nassuora (2011). Questionnaires were different in terms of demographic data only while all other statements and items were same in both. It was comprised of three parts. Part – I was related to demographic information in which teachers were required to write their gender and official rank (i.e., Lecturer, Assistant Professor, Associate Professor and Professor). While, in case of students, gender and age was required to fill. Part – II and III (see Table 2 & 3 respectively) were same for both teachers and students. In Part – II, 17 (seventeen) different functions of mobile phones were enlisted and were asked about their frequently use in terms of FREQUENTLY, SOMETIMES and NEVER. Part – III was comprised of 24 statements based on five-point scale to measure the attitudes of teachers and students for the applications of mobile phone technology in education. The scale was (SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree and SA=Strongly Agree). Discriminately, in Part – III, the information regarding to the applications or the frequency of MPs usage was asked for educational purposes only. Statistically, simple percentages, charts and Chi square test were used to conclude the results.

Regarding the issues of validity, a pilot study was conducted in which 12 teachers (7 female and 5 male) and 23 students (10 female and 13 male) were involved. During the pilot study, any difficulty in understanding the terms, required space for answering the items and other questions raised by teachers and students were recorded. According to their queries and responses, necessary changes were made and then thoroughly discussed with a panel of experts in which some senior professors and statisticians were involved. They suggested including some open ended questions at the end of Part – III of the questionnaires. Therefore, two open ended questions i.e., possible advantages and limitations of the mobile phone usage in education were also inquired by the end of Part – III of the questionnaire.

RESULTS & DISCUSSIONS

Demographic Information: Part – I, based on the demographic information (Table 1) showed that out of 187 sampled teachers maximum 55% were male and 48% were lecturer. In case of students, maximum 54% were female and 53% were the students of age 21 – 23 years. Only 4 (less than 1%) students were 'above of 26' years and hence therefore excluded from the final analysis because of the inadequate number of respondents.

Table 1: Respondents Demographic Information

Teachers' Demographic Information (n=187)				Students' Demographic Information (n=983)			
Group	**Classification**	**ƒ**	**%**	**Group**	**Classification**	**ƒ**	**%**
Gender	Female	84	45%	Gender	Female	526	54%
	Male	103	55%		Male	457	47%
Official Rank	Lecturer	89	48%	Age Group	18 – 20 years	412	42%
	Assistant Professor	43	23%		21 – 23 years	523	53%
	Associate Professor	31	17%		24 – 26 years	44	5%
	Professor	24	13%		Above 26	04	-

Uses of Mobile Phone Functions: In Part – II of the questionnaires, a list of 17 (seventeen) different functions of mobile phone (MP) were given to both teachers and students. It was calculated that 96% of the sampled teachers from all groups (i.e., female, male, lecturers, assistant, associate and professors) admitted that they were FREQUENTLY using their MPs for Calling purposes. An overwhelming majority (71% and above) of overall teachers (Figure 1) and teachers from all other groups disclosed that they NEVER used MP for Email, Videos, Audios, Chatting, and Class Room Presentations. Same majority of female teachers, lecturers, and professors added that they NEVER use Calendar on their MPs. Good majority (61% - 70%) of all groups of teachers FREQUENTLY use Calculator on their MPs. Same majority of all groups of teachers except Professors added that they FREQUENTLY send SMS and also set Alarm. Simple majority (51% - 60%) of all groups of teachers except Professors confessed that they SOMETIMES use Camera on their MPs. Same majority of overall teachers, male teachers and Associate Professors added that they SOMETIMES use Calendar on their MPs.

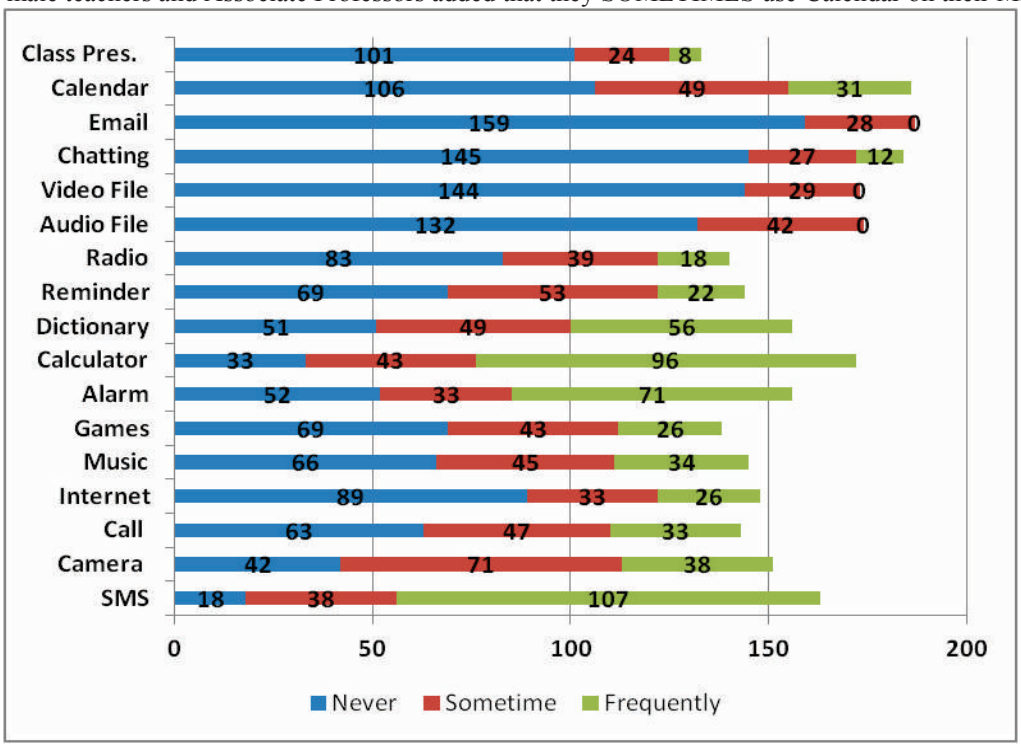

Figure 1: Overall Teachers' responses regarding the Use of Mobile Phones (MPs)

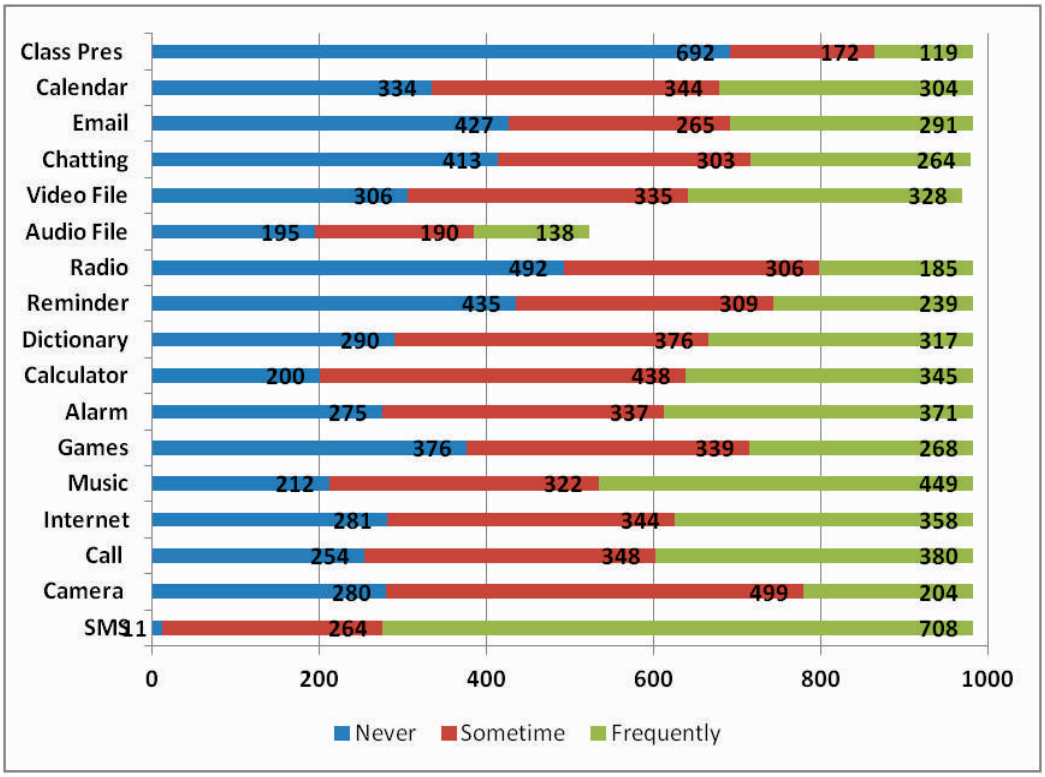

Figure 2: Overall Students' responses regarding the Use of Mobile Phones (MPs)

In case of students 91% students said they dial for Call and 98% admitted they use SMS functions through their MPs. An overwhelming majority (65% - 76%) of overall students (Figure 2), female students, students from the age groups of 21 – 23 and 24 – 26 admitted that they NEVER use their MP functions for classroom presentations. Good majority (55% - 64%) of all groups (i.e., overall, male, female, and students from all age groups) of sampled students FREQUENTLY listen Music; SOMETIMES use Camera and Calculator but NEVER use Reminder, Radio, Chat or Email on their Mps. Male students and students of age group 21 – 23 added that they SOMETIMES use Calendar, Audio & Video Files and Internet on their MPs. Simple majorities (45% - 54%) of all groups of students FREQUENTLY use Internet and Alarm; SOMETIMES play Games, Radio and Dictionary.

Respondents Attitude towards the use of MPs in Education: In Part – III of the questionnaire an overwhelming majority (71% - 85%) of teachers from all groups agrees/strongly agreed with the statements: "MP is a useful communication device", "MP is a source of information", "Using MP during class is an unethical activity", "MP tones or vibrations causes disturbance during class", "Using MP during class should be strictly prohibited" and "MP helps the parents to keep in touch with their children". Same majority of teachers from all groups except Professors were agreed/strongly agreed with the statements that: "Students' should have their teachers' contact number" and "Its' not wrong to share notes or lectures on MP". Same majority of male teachers and Professors believe that "MP has reduced communication gap between and among teachers and students", "Students should be discouraged for using MP within the campus". Moreover, Professors of same majority strongly approved that: "MP is a useful teaching and learning aid", "It's not wrong to circulating class or examination schedule through MP" and "MP is a source of cheating during tests or examinations". Good majority of teachers from all groups positively responded that "Shorthand texts in SMS have affected writing skills in examinations" and "MP has effected on teaching learning process".

Significant Chi square test (α = 95 and df=4) results were found between the attitudes of male and female teachers for the statements "MP is a source of information", "Teachers and students prefer to keep in contact through MP", "MP has increased monthly expenses", "MP is a source of cheating during tests or examinations", "Shorthand texts in SMS have affected writing skills in examinations" and "Students should be discouraged for using MP". Calculated values for these statements were (16.966, Sig. = 0.002), (12.792, Sig. = 0.012), (10.064,

Sig. = 0.039), (11.459, Sig. = 0.022), (10.437, Sig. = 0.034) and (11.155, Sig. = 0.025) respectively. Percentages showed that comparatively male teachers were more involved in the use of MP technology in teaching-learning situations. But not a single statement was found significant when Chi square test was applied to the scores of teachers' official ranks. It doesn't mean that they were not interested in using MPs for teaching-learning experiences but percentages showed that comparatively Lecturers and Professors were mostly using MPs professionally.

An overwhelming majority (75% - 90%) of students of all groups were agreed/strongly agreed with the statements: "MP is a useful communication device", "MP is a source of information", "Using MP during class is an unethical activity", "MP tones or vibrations causes disturbance during class", "MP has improved coordination between and among teachers and students" and "MP help the parents to keep in touch with their children". Same majority of all groups of students except 18 – 20 years old students were agreed/strongly agreed with the statements "Students' should have their teachers' contact number" and "Its' not wrong to share notes or lectures on MP". Male students and students of all age groups were agreed/strongly agreed that "Dissemination of assignments through MP will make best use of it in teaching learning process". Female students and students for age groups of 21 -23 and 24 – 26 years were agreed/strongly agreed with the statement that "MP is a source of cheating during tests or examinations".

Chi square tests ($\alpha = 95$ and df=4) were applied to the scores of gender and different age groups of the students. It was found that results were significant for all statements except statements number 3, 5, 6, 9, 11, 14, 17, 20, 21, 23 and 24 for gender-wise comparison and statements number 1, 3, 6, 12, 20 and 22 for age-wise comparisons among the students (see Table 3 for the statements). For gender-wise comparison the range of calculated values of Chi square was between 12.256 (Sig. = 0.012) to 44.819 (Sig. = 0.000) and for age-groups these were from 24.909 (Sig. = 0.015) to 44.375 (Sig. = 0.000). From the percentages it was clear that comparatively male students and students from the age group of 24 – 26 were more leaning towards the use of MPs in teaching and learning process. From these results, following major conclusions could be drawn as given below.

CONCLUSION

This study provides useful information regarding the uses of MPs in general and in education specifically by 187 university teachers and 983 undergraduate students. The authors have analyzed the answers to the qualitative questions in the surveys in an attempt to gain an understanding of pedagogical experiences of mobile phones by teachers and students in learning environment. The analysis of teachers and students responses disclosed that MP embraced widely in learning situations. Majority of the teachers and students used MPs to share teaching-learning ideas and news along with other daily life conversations (ALFAHAD, 2009) but students mostly exchange SMS for this purpose. It was found from the percentages that fewer teachers were using MPs for SMS, calculator and to set alarm. As compared to the students, majority of the teachers never downloaded emails, videos and classroom presentations for educational purposes because they like to use net on their laptops or Desktops and multimedia for classroom presentations.

All teachers and students strongly believe that MP is a useful communication device as well as source of information in terms of sharing notes and lectures main points. Teachers and students preferred to keep in contact through MPs therefore they should have their teachers' contact numbers; and MP helped the parent to keep in contact with their children. Not only this, they also admitted that MP tones and vibrations sometimes causes disturbance during class therefore it is unethical to use it during lecture.

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