EVALUATION OF SOCIAL COMMUNICATION AND EDUCATIONAL USAGE OF MOBILE TELECOMMUNICATIONS IN MALAYSIAN UNIVERSITIES

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Abstract

Mobile telecommunication service is a technology that has been accepted by people. Students in universities are attracted to the development of information and communication technologies. This is evident in the huge attraction to social networks where most of users are found young people and students who become familiar with new modes of communication offered by mobile telecommunication networks and can be used for mobile learning. Nowadays new generation of smart phones enable users to communicate faster and using variety of mobile applications for learning. The main motivation to use mobile communication is to create and maintain social interactions and exchange educational subjects. This paper is based on empirical research, aims to examine the social and educational usage of mobile telecommunication services in Malaysian universities by students from Information Technology (IT) faculties in specific public universities. The study provides insight overview into the level of usage of mobile telecommunication for various academic and social activities from the perspective of students. The study identifies some factors that influence the usage of mobile communications in education areas.

Keywords: Mobile communication, Information and Communication Technologies (ICT), Social Communication (SC)

1. Introduction

The mobile phone is viewed as an important communication tool and has become an integral part of the Malaysian society. People all over the world using the mobile phone rather than the fixed line telephone as a way to keep in touch with their family, friends, colleagues and business associates (Sheereen, 2009).

Education and training is the process by which the wisdom, knowledge and skills of one generation are passed on to the next. Today there are two forms of education and training: conventional education and distance education. Social communication and educational usage of mobile telecommunications offers modern ways to support learning process through mobile devices, such as handheld and tablet computers, MP3 players, smart phones and tablets (Yousef & Hamideh, 2013).

Mobile technologies used in educations are an attractive and easy means to maintain literacy skills and gain constant access to information. They are affordable, can be easily distributed and thus hold great potential for reaching marginalized groups and providing them with access to further learning and development. Mobile technologies facilitate distance learning in situations where access to education is difficult or interrupted because of geographical location or due to post-conflict or post-disaster situations. Mobile devices and personal technologies that can support mobile learning include (Rick, 2012):

- E-book
- Handheld audio and multimedia guides, in museums and galleries
- Handheld game console, modern gaming consoles such as Sony PSP or Nintendo DS
- Personal audio player, e.g. for listening to audio recordings of lectures (podcasting)
- Personal Digital Assistant, in the classroom and outdoors
- Tablet computer
- Mobile phone, camera phone and Smart Phone

The development of mobile technology led to the development of education through mobile by communication or social media networks. Mobile learning (m-learning) is defined as "learning across multiple contexts, through social and content interactions, using personal electronic devices" (Crompton, 2013). Mobile learning is a form of e-learning distance education; m-learners can use mobile device as an educational technology in many locations at their time convenience. M-learning focuses on the mobility of the learner, interacting with portable technologies. Using mobile tools for creating learning aids and materials becomes an important part of informal learning (Trentin, 2013).

M-learning carries the idea of e-learning a step further by adapting its content to handheld devices such as iPods (a digital audio and storage device from Apple Corporation), personal digital assistants, and smart phones. The main objective of m-learning is to provide the learner the ability to assimilate learning anywhere and at any time.

The purpose of this study is demonstrate the social communication and educational usage of mobile telecommunications in educational institutes in general and Malaysian universities in particular. Specifically, using the integrative literature review protocol, this study will cover, discuss, and address critical issues of mobile education including definitions, design models, caveats, adoption processes, and future trends (Crescente et al., 2011).

The previous literatures did not fill the gap in identifying all factors that increase social interactions and exchange of educational subjects through mobile devices. Most of literatures focus on technical issues and neglected other factors such as the lack of awareness and experience on using mobile telecommunications in educational institutes.

The motivation of this study is to enhance social communication and educational usage of mobile telecommunications in educational institutes, and by identifying the success factor of mobile education, the researcher aims to enhance the current approaches for mobile learning.

2. The concept of learning using mobile devices

Mobile learning is certainly not merely the conjunction of mobile and learning; it has always implicitly meant mobile e-learning and its history and development have to be understood as both a continuation of conventional e-learning and a reaction to this conventional learning and to its perceived inadequacies and limitations. It is the mobile' aspect of mobile learning that makes it stand apart from other types of learning, specifically designing learning experiences that exploit the opportunities that mobility' can offer us (Yousef and Hamideh, 2013).

M-Learning focuses on the mobility of the learner, interacting with portable technologies, and learning that reflects a focus on how society and its institutions can accommodate and support an increasingly mobile population. This is because mobile devices have features and functionality for supporting learners. For example, podcasts of lectures can be made available for downloading. Learners are to expect to engage with these learning resources whilst away from the traditional learning spaces. Over the past ten years mobile learning has grown from a minor research interest to a set of significant projects in schools, workplaces, museums, cities and rural areas around the world. The community of mobile education and learning is still fragmented, with different national perspectives, differences between academia and industry, and between the school, higher education and lifelong learning sectors (Singh, 2010).

Possible future applications for mobile learning include location based learning, augmented reality, wearable learning, learning implants, and ambient intelligence. Advancements in mobile learning will require a change from traditional classroom pedagogical approaches to a digital pedagogical approach that will suit mobile learners (Rick, 2012). Currently the areas of growth include (Singh, 2010):

- Testing, surveys, job aids and just-in-time (J.I.T.) learning
- Location-based and contextual learning
- Social-networked mobile learning
- Mobile educational gaming
- Delivering m-Learning to cellular phones using two way SMS messaging and voice-based Cell Casting (podcasting to phones with interactive assessments)

Mobile learning can happen anywhere: in a classroom, at the dining room table, on a bus, in front of a science exhibit, and anywhere. Portability is not as important as the ability of the learner to connect, communicate, collaborate, and create using tools that are readily at hand. We have got them working as part of the M-Learning project (Ling, 2004). Educational institutes can get benefit from mobile educations using smart phones by using the power of the new technology to re-inspire young learners who are dropping out of traditional learning.

M-learning is convenient in that it is accessible from virtually anywhere. Sharing is almost instantaneous among everyone using the same content, which leads to the reception of instant feedback and tips. This highly active process has proven to increase exam scores from the fiftieth to the seventieth percentile, and cut the dropout rate in technical fields by 22 percent. M-learning also brings strong portability by replacing books and notes with small devices, filled with tailored learning contents (Moore, 2009).

Chong et al. (2011) argues that the method of mobile learning and education using social communication networks is aided by a connection system, that is, wireless local area network or Wi-Fi. Dye et al. (2003) broadens this definition to include the spatial dimension (place), a wider range of mobile tools in Mobile Learning (paraphernalia), and the immediate stakeholders of Mobile Learning (participants), as shown in the following statement:

Mobile education and learning is learning that can take place anytime, anywhere with the help of a mobile computer device. The device must be capable of presenting learning content and providing wireless two-way communication between teacher(s) and student(s). Typically, an educational organization administrates both the course content and the communication services (Dye et al., 2003).

Here they consider that Mobile Learning is shaped through the combination of place, paraphernalia, and participants (Figure-1):
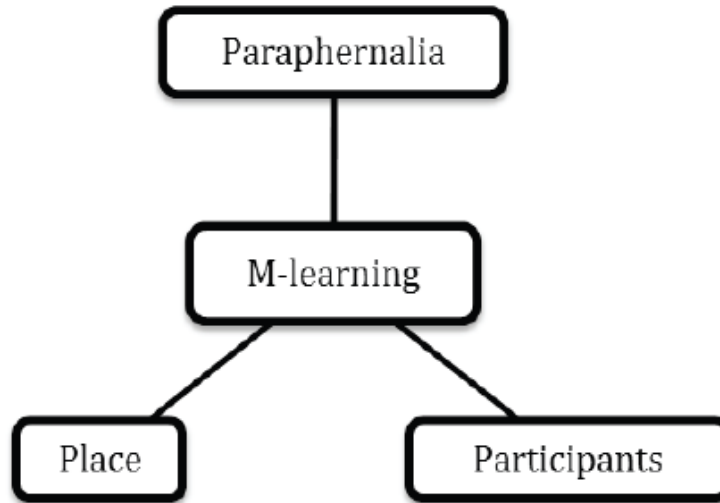

Figure-1: Manifestation of Mobile Learning through paraphernalia, place, and participants (Source: Mohamed & Norazah, 2013)

Research on institutional websites universities in Canada and the US, and European studies conducted on this topic allow seeing a growing concern in recent years about mobile education, for the negative effects that may result from the use of mobile technology in the classroom. Most of institutions recognize from the outset the significant benefits they provide and ICT the use of electronic devices in class for the purpose of social communication that enhance learning in classes or outside classes. In return, they deplored by many as the use of these devices can often harm the climate classroom and student learning, especially if it is not well integrated in a structured and explicit teaching approach. It said, it seems that relatively few institutions have adopted a policy, guidelines (Academic Council University of Montreal, 2013).

3. The approaches for mobile learning

There is now little doubt that the World Wide Web is the most successful educational tool to have appeared in a long time. It combines and integrates text, audio and video with interaction amongst participants. It can be used on a global scale and is platform independent. While largely an asynchronous medium, it can be used also for synchronous events. It is not surprising, therefore, that trainers, lecturers, distance education providers and teaching institutions at all levels are increasingly using the Web as a medium for delivery (Yousef & Hamideh, 2013).

The statistics showed that: The number of Americans accessing the mobile web went up 107% in recent years; Mobile Web Access is growing around 15 - 20% a month; Mobile internet growth is 8x greater than PC - based growth ; and Mobile social networking sites are getting more popular, mobile Facebook has 4 million users a day (Adkins, 2008). The wired learning environment of today might be presented diagrammatically in Figure-2 and Figure-3 below (Yousef & Hamideh, 2013):
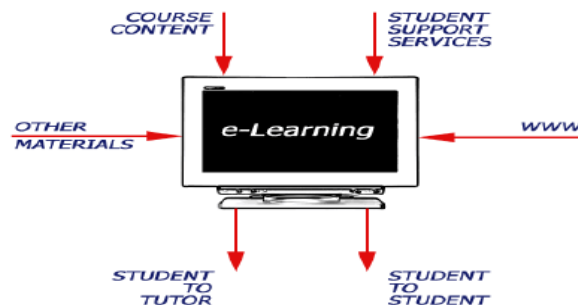

Figure-2: Wired Virtual Learning Environment of Today

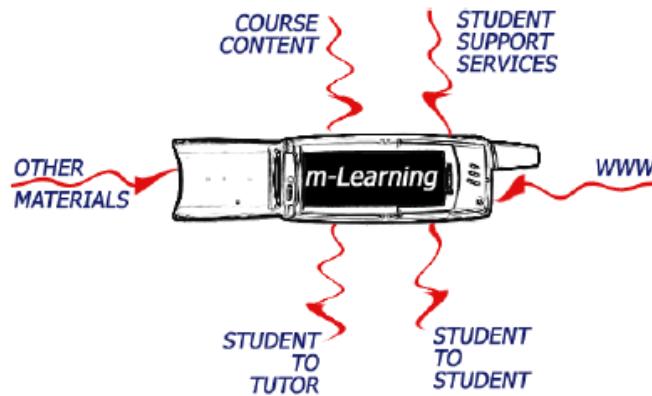Yousef & Hamideh (2013) put in place a new virtual learning environment which might be represented as follow:

Figure 3: Wireless Virtual Learning Environment of Tomorrow

4. The advantages of mobile and social education

Douch et al. (2010) indicated that mobile technologies can improve professional development and teacher training in several areas:

1. Communication: Mobile devices can be used in conjunction with wireless broadband and video-call services like Skype to facilitate communication between teachers and mentors.
2. Self-assessment: Video cameras can be used to record lessons, allowing teachers to reflect on their teaching practice and identify specific areas for improvement.
3. Innovation: Mobile technologies can be used in teacher education programs to challenge teachers to think creatively about mobile learning and develop the confidence to try new ideas.

Mobile devices can be used in brick-and-mortar or online settings to enhance learning experiences. There are many approaches to use mobile devices such as smart phones and laptops for learning (Saylor, 2012). The mobile education can be conducted in different ways, for example; using mobile phones as sharing and learning tool by students, information sharing via SMS or MMS on current programs, schedules, examination dates, notes, etc, also the photograph documents (course, book pages, etc.) for future reference when they are alone away from their notebooks. The following are the main application used in mobile education

1. Classroom

Classroom applications combine the use of handheld computers, PDAs, smart phones or handheld voting systems with traditional resources (Masters, 2005). Mobile devices (such as a Pocket PC) in the classroom can be used to enhance group collaboration among students through communication applications, interactive displays, and video features (Murray & Nicole, 2011).

- Existing mobile technology can replace cumbersome resources such as textbooks, visual aids, and presentation technology (Naismith et al., 2004)
- Interactive and multi-mode technology allows students to engage and manipulate information
- Mobile Device features with WIFI capabilities allow for on-demand access to information) Robinson & Reinhart, 2014)
- Access to classroom activities and information on mobile devices provides a continuum for learning inside and outside the classroom

- The mobile phone (through text SMS notices) can be used especially for distance education or with students whose courses require them to be highly mobile and in particular to communicate information regarding availability of assignment results, venue changes and cancellations, etc. It can also be of value to business people, e.g. sales representatives who do not wish to waste time away from their busy schedules to attend formal training events.
- Mobile devices facilitate online interaction between instructor and student, and student to student (Naismith et al., 2004)
- Blended learning takes the classroom out of a traditional brick-and-mortar setting. Students become part of virtual communities used for collaboration. Blended learning transitions away from a traditional teaching environment to a customized and interactive web platform for the user

2. Podcasting

A podcast is a digital medium that consists of an episodic series of audio, video, digital radio, PDF, or ePub files subscribed to and downloaded through web syndication or streamed on-line to a computer or mobile device. The word is a neologism and portmanteau derived from "broadcast" and "pod" from the success of the iPod, as audio podcasts are often listened to on portable media players (Gronstedt, 2007).

Podcasting consists of listening to audio recordings of lectures. It can be used to review live lectures (Clark & Westcott 2007) and to provide opportunities for students to rehearse oral presentations. Podcasts may also provide supplemental information to enhance traditional lectures (McGarr 2009) Psychological research suggests that university students who download podcast lectures achieve substantially higher exam results than those who attend the lecture in person (only in cases in which students take notes) (Callaway & Ewen 2009). Podcasts may be delivered using syndication, although this method of delivery is not always easily adopted (Crescente et al., 2011)

Fernandez et al., (2009) stress that podcasts offer a better overview the material to Canadian Students ants. The podcast can also be used to make explicit a process or facilitate the use of specialized tools. The communication videos can be made available to learners to show them how to use such or such equipment or how to comply health or safety instructions. Authors such as Mc Combs et al. (2007) consider podcasting as a tool with significant potential for apprentices sage. Maag (2006) considers these possibilities are related both to the terms of access to information, the structuring of information and the purposes use of the publicized material.

3. At work

Mobile education in a workplace can be very different from a school's context. Although employees do occasionally attend face to face training events, the majority of work-based learning happens on the job, often at the moment of need. Because of this, mobile learning is being used in a wider range of modes (Kahle-Piasecki et al., 2012):

- On the job training for someone who accesses training on a mobile device.
- Just in time training to solve a problem or gain an update.
- Performance support. Immediate access to tools to streamline a work-task
- Reference guides and ebooks
- Checklists

Due to the very diverse training needs across a large organisation, self-serve learning is more common than is found at the school, or college level. Mobile is seen as an effective way to reach a large number of employees easier and more effectively (Savil-Smith et al., 2006)

5. Mobile education in Malaysian universities

Many studies conducted on technology-based learning in general, and on mobile learning, in particular, are regarded as ground breaking and promising ones in Malaysia. However, in spite of the hype around how Mobile Learning can make learning and education more accessible and vigorous in the developing countries including Malaysia (Issack et al., 2005), as technology-fed devices such as mobiles and tablets are viewed as the 'personal computer' of the students owing to their increasing pervasiveness there, more rigorous studies are clearly called for to marry the research findings and students' real practice in classroom and also when they are on their own (Mohamed & Norazah, 2013).

Ally (2009) found the issue of the lack of awareness can be dealt with using common solutions, such as carrying out road shows, seminars, and talks at the institutional level. It is also imperative for UKM university to have a working definition of mobile learning, to clarify this concept for people who are becoming aware of it. As discussed earlier, in the introduction, Mobile Learning is defined differently by different people and organisations. If UKM university can uphold its own working definition of mobile learning, this will allow for proper focus in terms of resource utilisation, training, and development. While Vogel et al., (2010) found low penetration of smart mobile devices can be alleviated by the development of strategic partnerships with various telecommunications providers and device makers. However, this may involve policies that are beyond the scope of the discussion in this chapter. Capable smart devices are becoming more affordable, as noted earlier in the chapter, and manufacturers vying for a bigger slice of the market often introduce devices at different price points to ensure that there is a model for every need. Entry-level smart devices are likely to become more and more affordable in the future

In a related study conducted by Afendi Norazah et al., (2010) found the issue of preparation and readiness for mobile learning at UKM university. Their results of the survey show that 65% of the respondents are owners of smart or mobile phones, and that the respondents indicated a favourable perception of mobile learning. The majority (85.7%) also believe that mobile learning would be useful for their students, citing its flexibility as the main reason (90.1%). A total of 293 (85.7%) think that mobile learning will enhance their students' learning experience.

Where Hashim (2010) states that there are favourable perception of mobile learning correlates to a favourable experience with e-learning, which suggests that familiarity with teaching via technology, may also play a factor in their responses. The majority (85.7%) also believe that Mobile Learning would be useful for their students, citing its flexibility as the main reason (90.1%). A total of 293 (85.7%) think that Mobile Learning will enhance their students' learning experience.

6. Conclusion

This study shows that mobile phone use has been hugely accepted by students all over the world as a new and developed technology for education including Malaysian universities. The study found that university students are able to adapt well to the mobile phone. There are quite a number of challenges with mobile learning regarding all the available mobile devices and their contribution toward mobile learning. The major challenges facing stakeholders and students are is adaptive Learning – This demands that the instructional strategies and learning content should be designed to adapt to the learner's profile and personal needs. Thus, to make up for adaptive learning, the learners' location needs to be taken into consideration. Limited Text Display – The exploration of how mobile devices could support in providing continuous learning activity during the learning courses or a standalone learning module is crucial.

The study also found that instant communication – location and response time are crucial factors in supporting the success of good academic interaction and learner satisfaction using mobile devices. Prompt interaction among learning peers could be built in by the mobile communication network by utilizing the prompt notifications of message reception. Also, global interfaces through languages and cultural contexts pose challenges in regard with education using mobile devices.

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