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Usefulness of M-Devices in Education: A Survey

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Abstract

With the advent of globalization, there has been an explosion of information in all walks of life. Various electronic gadgets have been developed to access the information. Till recently, information could be retrieved only through desktops, either at working place or homes or libraries. But now the scenario has undergone a complete change. Mobile devices are increasingly being used for obtaining information. Conveying informational content through mobile phones, smart phones, i-pods, photo frames, and personal digital assistants like palmtop is known as m-learning. There have been various m learning initiatives in India. Almost every sector has been benefited from the use of m-learning, and perhaps the areas having biggest impact are education, agriculture and healthcare. Mobile technology and applications have the widest reach among students. Which means that education can be imparted to unreached segments—in some traditional societies it could mean the women, or those who are differently-abled, or the one who because of any reason cannot go for class room studying. The mobile has almost ubiquitous reach. The present study is based on the survey among the undergraduate students. The usefulness is described by various parameters like availability, cost effectiveness, ease of use, and ease of handling and speed of retrieval. The results are consistent with the upcoming trend.

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1. Introduction

Learning through electronic media (E- learning) currently depends on networks and computers but will likely evolve into systems consisting of a variety of channels (e.g., wireless, satellite), and technologies (e.g., cellular phones, PDA's) as they are developed and adopted. In short, E-learning is the learning facilitated and supported through the use of information and communication technology. At the initial

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stage, E-learning was mostly targeted toward PC users using fixed line access to Internet (e.g., KBS 2000, CBR 2002, SQL 2002, Blackboard 2002, VEDA 2002, Prentzas 2002). With the availability of high bandwidth wireless channels such as 3G-telecommunication infrastructure and wireless LAN, M-learning is becoming more feasible now (Goh T et al, 2003).

2. Literature Review

Rapid developments in information and communications technologies require learning institutions to continuously reevaluate the approaches in the physical as well as in virtual ‘classroom’ teaching. M-learning (mobile learning) is a kind of e-learning which based on the use of mobile devices (PDAs, mobile phones, notebooks or Tablet PCs) anywhere at anytime (Georgiev, T. et al 2004). The advances and diffusion of mobile technology have influenced considerably our everyday life changing our habits and practices by freeing us from the confines of the desktop activities. (Williams et al., 2006). These devices must support wireless communicational technologies (GPRS, GSM, IEEE 802.11, Bluetooth, and IrDA) and have a possibility to present teaching materials, and to realize an asynchronous/synchronous communication between learners and teachers (Evgeniya G et al 2007). The increasing availability of low-cost mobile and wireless devices and associated infrastructure provides both opportunities and challenges for educational institutions and their teachers and learners (Cobcroft, R. S. et al 2006).

The rationale to undertake a survey into mobile devices was to understand and embrace the changes in learners, teachers and institutions in concert with associated ICT advances, whilst acknowledging the risks. It is known that the major dimensions of usability defined by ISO (1993) are effectiveness, efficiency, and satisfaction. These were the parameter on the basis of which usefulness of m devices in higher education was judged.

The present study is aimed at exploring:

- Whether the enthusiasm of young generation for mobile devices can be harnessed to encourage participation in education or training.
- To ascertain whether mobile learning can result in improved literacy, numeracy or changed attitudes or behavior, including greater enthusiasm for learning and progression to further learning.

Therefore, the focus is on the role of technology that can support learning that occurs across urban locations, learning arenas and communities.

3. Methodology

This study was based on a survey of students doing graduation, post graduation and research across the various universities of India. This study is an effort to understand the use of technology in teaching. Using an online survey service, Google, we developed an online questionnaire as an instrument for this survey study. The survey is available on <https://spreadsheets.google.com/spreadsheet/viewform?formkey=dDNXSUQ5Z0h1ME56Vk52dHh2dG5MRWc6MQ>. The questionnaire consisted of 13 questions. In addition to another section there are few questions regarding respondents' demographic information. The survey used various types of questions, including, multiple-choice, and open-ended questions. Descriptive data analyses (such as frequencies) were conducted using the data analysis tool provided in the online survey site.

4. Results

There is a wide spread popularity for using m devices particularly mobile phones (smart phones) among the young generation irrespective of the gender. Both male and female students use mobile devices.

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