Instructors' Perspective on E-Learning Adoption in Sri Lanka: A Preliminary Investigation

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Abstract

E-Learning has become an increasingly popular mode of instruction in higher education due to advances in the Internet and multimedia technologies. The purpose of the study is to gauge the perception and views of the lecturers at South Eastern University (SEUSL). As it is an exploratory study, the case study method was undertaken. The result of the study indicates that the lecturers are with positive attitude and supportive mindset to embark on e-learning initiative and it also identified a number of factors that could potentially influence the e-learning implementation in the university. Moreover the findings are instrumental and directing in undertaking a comprehensive study to understand the overall perception of lecturers towards e-learning implementation at the tertiary educational institutions in Sri Lanka.

1. Introduction

Following the advancement of Information and Communication Technology (ICT), all the organizations regardless of its core business, size, function and other characteristics, tried to innovate the way that has been adopted for many years. The impact of ICT in the educational sector is also remarkable and it can be noted that a lot of improvements have been made on the instructional and interactive technologies whereby the institutions of tertiary education are consistently endeavoring to deliver a quality education to the student community. The use of technology is nowadays considered as a capital investment. Coleman & Laplace [4] described that the individuals and organizations must continually acquire new skills and new ways of managing knowledge and information in order to succeed and survive in this new environment. Therefore e-learning became a central focus of the training arena.

Sri Lanka is one of the developing countries in Asia and regarded as a nation of high resilient. The engine of growth had been the service sector (55% of GDP) where progress in telecommunication sector contributed significantly [21]. Though the fixed line telephone growth was fairly good, its growth was not satisfactorily distributed countrywide. The fast growth of mobile network has offered a new option to rural area. Moreover, the cost, quality and connectivity issues of these services were questionable. The literacy rate in Sri Lanka is the highest among the South Asian countries (92%) but the computer literacy rate was very low until recent time. The introduction of ICT into the school system in Sri Lanka had taken more than two decades. Even though a variety of efforts were initiated since 1983, national scale introduction of computer education to public school system gained momentum from 1994 onwards [15].

With the objective of leveraging on Information and Communication Technology (ICT) for the purpose of improving public service delivery, increasing private sector competitiveness, promoting new sources of growth, accelerating social development, bridging digital divide and supporting peace, the World Bank has provided USD53 million for the e-development project, called e-Sri Lanka in September 2004. The Information and Communication Technology Agency of Sri Lanka (ICTA) has been responsible for facilitating the implementation of the project, consisting six components, namely, (i) the ICT policy, Leadership and Institutional Development Program; (ii) the ICT Human Resources Development and Industry Promotion Program; (iii) the Regional Telecommunications Network, (vi) the ICT Education and Telecenter Development Program; (v) the Re-engineering Government program; and (vi) the E-society program [20].

The ICT Education and Telecenter Development Program are most relevant to this paper. Under the program, the ICTA has set up four different types of Knowledge Centers which are known as 'Nenasalas'. These knowledge centers have been categorized as such rural knowledge centers, e-libraries, distance & e-learning centers and tsunami camp computer kiosks, depending on the complexity and the type of services that will be offered.

The infrastructure especially the Internet access in Sri Lanka is at par with other developing countries in the region. There are many ISPs in Sri Lanka, with SLT being the largest. At the last count, there were 17 active providers, with an additional 10 licenses issued. Most of these players, however, are quite small. The vast majority of subscribers are in the Colombo area, but there are points-of-presence in several other urban centers. The cost of Internet ISP access is comparable to similar services elsewhere in the world. Despite various industries in Sri Lanka making use of e-mail and the web, it is notable that virtually none of them have truly integrated it into their business [10].

It is against the above backdrop that this study was conducted. While e-learning has been studied extensively in developed countries, only a few have been conducted in the context of Sri Lanka. Towards preparing the country to move towards implementing e-learning at the higher educational institutions, it is necessary to understand the factors that promote or encourage the success of e-learning. This research, while at an early stage, attempts to fill this gap. The purpose of this study is to gauge the perception and views of the lecturers at one of the universities in Sri Lanka towards e-learning implementation. This preliminary investigation is to explore the recognition of e-learning as a part of the teaching task, the readiness to adopt the e-learning system and the expectation and requirements of lecturers in implementing the system.

2. Literature Review

2.1 E-Learning Success and Lecturers' Participation

The adoption of innovation in instructional and interactive technologies is not successful in some higher educational institutions. There are many factors that can be attributed to this situation. In fact, it is a challenging task to innovate the traditional way that has been well rooted and adopted differently. Students use the e-learning system for their learning purposes and instructors use it for the purposes of designing and teaching courses, delivering materials and monitoring and administering the students' activities etc. Students are exposed to the front-end whereas instructors are at the back end and are expected to be technologically sound enough to handle the system. Therefore in the implementation process of e-learning system, teaching staff should be focused clearly as they plays a central role in the effectiveness of online delivery and it is not the technology but the instructional implementation of the technology that determines the effects on learning [5]. Instructors can be considered as the first user of such system in an institution which is at an initial phase of adoption of the system. Although the definition of e-learning users has narrowly focused on the end user 'the student' it can not overlook the role played by the instructor in terms of designing course, delivering materials, teaching the

course and monitoring and administrating the students activities. Fathaigh [8] highlighted that little attention has been given to the teaching staff/faculty, full or part-time, who teach/design e-learning programs and why they participate whilst other do not? Such faculty participation is a significant access issue and is imperative for quality e-learning programs to succeed.

A review of past studies revealed that several factors were related to instructors' use of e-learning. For example, Webster and Hackely [19] explained the three instructor characteristics influencing the learning outcome such as attitude towards technology, teaching style and control of the technology. The study focused on the learning outcome that is to be gained by the students and the role to be played by the instructors in stimulating students to use the e-learning. Similarly, Lee, Hong and Ling [13] emphasized that developing positive attitude towards using computers in a virtual learning environment as an important goal for the administrators and academics of higher education. Examining the issue further, a more recent study by Golden *et al.* [9] revealed that lecturers' use of e-learning was associated more with their own attitudes and confidence than with their personal background characteristics or the context of their institution. Development of attitude and confidence to use e-learning system could become critical element to be cultivated. Besides attitude, experience and training, motivation was found to be another significant predictor for e-learning use by instructors. According to Fathaigh [8], researches indicate that 'intrinsic motivators' are more important than the 'extrinsic motivators'. Interest in exploring new opportunities for student learning, commitment to the intellectual challenges in new approaches and interest in the use of computers in teaching are identified as intrinsic motivators, whereas monetary and personal rewards as extrinsic motivators.

It is questionable here that the attitude and confidence that have been developed over the period of time in the use of the traditional system would synchronize with the roles to be played differently in the new system. There are significant role changes for faculty in e-learning who may be more comfortable and familiar with traditional methods [18]. Betes [1] explained that there is a need for redefining and rethinking their role in the open and distance education. This would be entirely new experience for the instructors who are expected to use the e-learning system. There is a need for training on how to use the system.

Past studies have also focused on understanding the barriers or inhibitors for e-learning adoption by instructors. OECD [16] acknowledged that there are few key barriers such as infrastructure and funding that exist in some institutions in some countries. However, skepticism about the pedagogic value of e-learning and staff development are probably the most challenging aspects and the general concept of staff development is widely seen as key to sustainable e-learning in tertiary education. Infrastructure

development and staff development are very curial at the pre-stage of e-learning system. Schifter [18] has also identified factors that inhibit the faculty from participating in e-learning to include lack of technical support provided by the institutions, lack of release time, concern about the faculty workload, lack of grants for materials/expenses and concern about the quality of courses.

Another barrier is related to the negative attitude and belief about the innovation of web based teaching method. Pajo and Wallance [17] indicate that the organization which plans to adopt the innovation of web based learning method should first eliminate the negative attitude and belief about the web-based learning method. The barriers associated with the new method are time requirement to learn to use web-based technology and develop courses; time requirements associated with using and monitoring web-based technology in teaching and lack of training.

The intention to use e-learning is also significantly related to the perception of the user in relation to its advantage and compatibility [14]. If they perceive that it would be of greater use and compatible with existing values, beliefs, experiences and needs of learners, they tend use it. In addition, King [12] pointed out the urgent need of the teachers for the professional development, because it is difficult to them to keep with new changing technology and it is sometimes intimating or frustrating. Therefore the continuous training is very essential to keep alive them with the new system.

2.2 E-Learning in Sri Lanka

Boud, Solomon, & Symes [2] identified that today Universities are under increasing pressure to reduce public expenditure and to increase the numbers and diversity of their student population. As in the case of Sri Lanka, there are a number of students who pass in the G.C.E Advanced level (A/L) examination are dropped out in admission decision by the University Grants Commission (UGC) which offers admissions to a limited number of students who get higher aggregate marks in their A/L exam. In the academic year 2005/2006, out of 118,770 students who satisfied the minimum requirement for university admission, only 17,287 students got admissions and in 2006/07, out of 119,955 students only 17,248 got admissions. The normal percentage of students being selected to university out of the eligible candidates is between 13% - 15%. The reason for the limitation can be attributed to the lack of resources and other infrastructure facilities. There are 14 national universities and 4 institutes to which students are allotted by the UGC. The left out students can get admission for the external degree programs or apply for admission to the Open University. However the number of students completing their degree successfully is minimal.

E-learning could be an alternative education method which would give equal opportunities to many students to learn. E-learning implemented for on-campus use provides flexibility in scheduling courses and improves the use of limited resources such as classrooms and laboratories [3]. Presently a few universities offer e-learning facilities. Once the e-learning system is implemented in all universities, a greater number of students can be absorbed into the tertiary education program but this situation may pose some challenges for university lecturers as they are forced to use the e-learning system.

ICTA is currently in the process of implementing four Distance & e-learning Centers (DeL centers). Two of them are located at the University of Jaffna and the South Eastern University of Sri Lanka. The DeL centre will have distance and e-learning services inclusive of all infrastructure facilities such as video conferencing room, multi-media computer laboratory and a playback room. The overall objective of the DeL Centre project is to provide new information sharing and learning opportunities to a large spectrum of users in the country, through the establishment of an interactive, multi-channel network linking to existing domestic e-learning networks, and global networks for distance and e-learning, such as the Global Development Learning Network. DeL centers aim at raising the skill levels of a broad spectrum of the population in key urban areas outside the Colombo, the capital. The initiation of the Government to implement such an island-wide e-learning program alerts all higher learning institutions to be prepared to offer educational activities through e-learning system in the near future. So far only a few public programs instructed by Government are coordinated through these e-learning centers.

On the actual use of e-learning, Edirippulige *et al.* [7]'s study on medical students found that nearly half of the respondents (43%) stated that they were familiar with the term e-learning but only 19% stated that they had used e-learning modalities for educational purposes. The majority of respondents said that they had not used web-based learning material or multimedia resources for medical education. However, more than half of (56%) respondents agreed that e-learning would be useful tools in medical education. Despite the majority of respondents believing that e-learning modalities can be a useful tool to address some of the problems in medical education in developing countries, a lack of technology and learning opportunities have restricted the potential benefits. In conclusion, very scant research has been conducted on e-learning in Sri Lanka, and this study attempt to fill this gap.

3. Research Method

As this study is exploratory, the case study method was deemed as appropriate. Case study is the preferred strategy when the "how" or "why" questions are being posed [6]. The selected case organization was South

Eastern University of Sri Lanka (SEUSL). The reason for selecting this university is because this university can be considered as a pioneer in implementing educational reforms in Sri Lanka. In addition, one of the authors is attached to the University which resolved the issue of accessibility.

This case study has been undertaken to investigate how the lecturers attached to SEUSL perceive about the adoption of e-learning system. SEUSL was the 10th national university established in the less developed regions, eastern part of Sri Lanka in 1995. Being a forward-looking university, it is hoped that the policy decision of the government will one day implement the e-learning system in order to offer the educational program to the undergraduate students. Universities are autonomous bodies and it can implement any new educational systems however the academic staff are core elements in the implementation process.

The data for analysis have been collected through a structured interview with the help of preset open-ended questions. Lecturers attached to the Faculty of Management and Commerce and the Faculty of Arts and Culture were requested to participate in the interview and those volunteers have been considered for the interview. Structured interviews were conducted; with some carried out face-to-face, others were sent through e-mail. Since the researcher is in Malaysia, interviews were done face-to-face with interviewees, staff of SEUSL currently pursuing their postgraduate studies in Malaysia, while others in Sri Lanka were done at a distance. Eleven interviews were conducted, however, only nine were useful as two interviewees did not complete most of the interview questions. The following section presents the results for the study.

4. Case Findings and Discussion

The overall finding suggested that there is a positive attitude to accept the e-learning system. Although they view e-learning system as an easy delivery method; better way of teaching; and more personal, attractive, efficient, accessible and feasible system, some of them prefer a mixed learning environment having considered the doubt of the academic quality in the system. It is expected that a proper evaluation and monitoring system must be incorporated into the e-learning environment to ensure the quality and academic standard of the degree is achieved. Most of them expressed the difficulty in inaugurating a pure e-learning system for the existing degree programs but they are positive in introducing it for the external degree programs or starting a new program that is fully based on e-learning system. This situation urge to make an analysis of the programs that can be made available on e-learning system.

It could be noted that no one has prior experience in using e-learning system for teaching purposes but a

few had accessed it for their learning activities. Those who have basic IT skill and those participated in training workshops are confident enough in accepting and implementing the system, but those with poor IT competency opt to follow the traditional method. Interestingly, if it is mandatory to use system for their teaching purposes, all of them welcome it. They prefer a compulsory mandate to go head. They also wanted to make it compulsory for their students as well. They explained that the successfulness of any system implementation depends on the compulsory situation provided that the necessary resources, facilities and infrastructures are fulfilled.

Related to the infrastructure for E-learning implementation, most interviewees perceived that the existing IT infrastructure is generally sufficient but the issues of low bandwidth of Internet connection; poor maintenance of computers; insufficient server capacity and capability of system administrator have been identified. Lecturers expect the management to play a vital role in rectifying these issues before launching the system. However it is observable that there is a continuous improvement in the Internet connection and so on.

Training aspect occupied an important place in the implementation process of the system. All the staff regardless of their previous experience, knowledge and competency level require professional and comprehensive training before adopting the system. In addition to this, they expect moral support, necessary materials, peaceful environment and cooperation from the management. Some of the staff who prefer innovation perceived the system itself as a motivating factor whereas others require a kind of incentive in the form extra payment, bonus point for promotion, better working condition and foreign training which they believe it would motivate them and others in producing better outcome.

A very few lecturers have already changed their teaching style to suit the e-learning environment, some of them expect to change after adopting the system and some still prefer the traditional method. However, if it is mandatory, everyone will be down to earth to make changes. Since their attitude is positive, it could be achieved quickly. Group email, group chatting, web posting, and CD ROM are commonly spoken communication mode among the interviewees. Lesson and material preparation are considered core element in e-learning teaching method.

If there is a Government policy in favor of e-learning implementation, it will be accepted by all institutions and the positive reaction of higher authority of institutions is also important. The most of the lecturers interviewed are happy about the management and expect positive reaction. But few noted that when the management understands the necessity and importance of e-learning system, support can be obtained easily. All of the staff agreed that implementing such a system would boost the goodwill

and reputation of the university and it also would provide added advantage.

5. Conclusions

It is interesting to note that the findings of this preliminary study provide evidence that SEUSL is generally ready to embark on E-learning initiative. The responding staff indicate a very positive attitude and are supportive of the e-learning initiative, if introduced by the University management. With some improvement on the network administration and bandwidth, staff and student training, and proper policies and incentives, SEUSL is set to be among the pioneers in E-learning implementation in Sri Lanka.

More importantly, the findings from this preliminary study have been useful towards formulating a more comprehensive survey to understand the perception of instructors towards e-learning implementation at higher educational institutions in Sri Lanka. The findings have identified several factors that potentially influence e-learning acceptance by the Sri Lankan higher education instructors: (i) Instructors' readiness, which include awareness, training and confidence; (ii) Students' readiness, which also include awareness, training and confidence; (iii) the need for e-learning, that is, the type of program or courses suitable for this mode; (iv) Infrastructure; (v) institutional support; (vi) motivation and incentives; and (vi) the E-learning system itself. Since the research is still in progress, these variables will be validated in the second stage of the research, using the questionnaire survey. It is hoped that the findings will contribute towards understanding e-learning implementation in other developing countries as well.

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