The use of Information and Communications Technology in teaching and e-learning in the Caribbean

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ABSTRACT

As educational institutions and other training facilities search for more economical ways to deliver education and training, the Internet has become the main mode of choice for its reach is farther and wider than any major educational marketing initiative. The Internet is also an inexpensive tool that delivers access to education and training to persons previously thought impossible to reach. One could say that the Internet has widened access to education and other trainings to persons that were once excluded due to working hours, family obligations, and other external commitments (Masino, 1998).

While the Internet has fulfilled its' role of providing access to education and training to those persons once excluded for various reasons, there is a movement away from the previous modes used to deliver education and training at a distance. Teleconference, although, expensive, is used less in delivery of instruction while the move is more towards distance learning utilizing the Internet.

The issue of access to education and training through the Internet should cause institutions to re-evaluate previous modes of distance learning delivery and either infuse or supplement those model platforms into current modes of distance learning channeled through the Internet (Masino, 1998).

The purpose of this paper is to capture perceptions of the use of Information and Communications Technology (ICT) in teaching and e-learning at The University of the West Indies Open Campus.

Key words: distance Learning, Internet, e-learning, ICT, instructional technology

INTRODUCTION

Technological advances have created new and exciting opportunities for both teaching and learning (Masino, 1998). Technologies such as computers, television, video conferencing and teleconferencing offers the promise of reinventing education at a distance by supporting interactive, inquiry-based learning (Masino, 1998). Information and Communications Technology (ICTs) have expanded the definition of the "classroom" to include whole communities of learners throughout the world (Masino, 1998)

In today's economic climate, educational institutions have utilized ICTs to meet the demands of an ever changing workforce by catering to a large base of learners which trying to maintain the quality of interactions of the face-to-face learning environment. With the use of ICTs the e-learning environment is born and along with it all the teething pains; how does a course in the face-to-face environment look in an e-Learning environment? What technologies can be used to effectively transition lecturers and students? Can the face-to-face instructional environment be effectively transitioned into an e-Leaning environment?

The purpose of this study was to review the technologies currently used in teaching and e-learning at a distance learning education institution. Additionally, this study also captures the perceptions and technology use among lecturers. The existing research and literature suggests that there are many variations of learning technologies for providing learning to participants at a distance. While many institutions move to distance learning via the Internet as a mode to delivering education and training to a larger cadre of participants what is often overlooked is the appropriate ICTs that are a best fit for the curriculum to be delivered and the learning style of the participants that will keep active engagement and assist in the desired student learning outcomes. This paper will deal specifically with feedback from the e-Learning Instructor as it relates to their perceptions of ICT's in the teaching and learning environment.

LITERATURE REVIEW

The literature review on distance educational delivery via eLearning revealed a myriad of issues that could be significant to the improvement of educational learning outcomes. The literature review suggested divergent reasons why learners use distance education to access learning and presented associated retention statistics. Previous research also presented comparisons of various distance modes of learning as it relates to cost, time management, and effectiveness.

Over the past 20 years, ICT's have evolved from educational programmes delivered via television such as Sesame Street to full fledge educational programmes delivered partially (hybrid) or fully online using the Internet based on the demand and catering to the availability of the participant.

In today's economic climate educational institutions have utilized ICT's to cater to a larger base of learners while trying to maintain the quality and interaction of the face-to-face learning environment.

E-Learning is defined as the use of digital technologies and media to deliver support, and enhance teaching, learning, assessment and evaluation (Amitage & O'Leary, 2003, p. 4). Conversely, according to Naisdu, 2003, p. 5), e-Learning refers to the systematic use of networked information and communications technology in teaching and learning.
The Commission on Technology and Adult Learning, 2001, defined e-Learning as Instructional content or learning and teaching experiences delivered by electronic technology.

The most unique characteristics of e-learning is the use of ITCs to teach. Therefore, ICT's have a myriad of implications for the learning and assessment processes (Masino, 1998). These implications include isolation of the learner from resources, support, and peers; the lack of face-to-face interaction with Course Coordinators; and delayed feedback (Masino, 1998). These factors have impart necessitated a large quantity and diversity of media and technology, which becomes a second distinguishing feature of e-Learning. In creating or mimicking the face-to-face environment, the instructor must rely on a variety of learning strategies that encompass ICTs.

ICT technologies used in e-Learning include television (Blended Learning, CSUDH 2002), Tele/Videoconferencing, Skype, Angle, Moodle, and Blackboard just to name a few. The University utilizes a variety of ICTs to delivery on time education and training to students and organizations throughout the region. Some of the technologies used include BlackBoard®, Moodle®, Turnitin®, G-mail®, Google Docs®, E-Portfolio®, Skype® and various other technologies as necessary.

RESEARCH QUESTION

How do E-Lecturers perceive their use of information and communications technology in online teaching and learning in the Caribbean?

METHODOLOGY

The purpose of this study is to examine and discuss how the Internet and other Information and Communication Technologies have been effectively used to provide distance education and training to the persons within Caribbean Region. This paper also addresses the results of The Use of ICT's in Teaching and e-Learning Survey that was used to capture perceptions Course Coordinators who facilitate distance learning throughout the Caribbean on behalf of the University. The Survey was sent to fifty-eight (58) Course Coordinators for their feedback. The selected Survey participants were on schedule for Semester II, 2012 however, twenty (20) persons responded. The Survey was sent online via SurveyMonkey® and retrieved via Microsoft Office® Data collection began in November 2012 and continued through December 2012.

Limitations

The online survey data collected is from participants who were contracted as online Course Coordinators with The University of the West Indies Open Campus. Participants chosen for this Survey facilitated Semester II courses on offer in the Management Studies Programme. In this regard, the perceptions of Course Coordinators representing Semester II courses in other programmes were not included.

DATA ANALYSIS

The Teaching and E-Learning Survey© was sent to fifty-eight (58) Course Coordinators currently teaching online in Semester One of 2012. The Survey was sent in electronic format via the Internet through SurveyMoney® where the results would be tabulated externally as received.

A Survey reminder was sent to remind Course Coordinators of the Survey and the importance of their feedback. Twenty Course Coordinators (34%) responded to the Teaching and E-Learning Survey.

From responses received as to the use of ICT in teaching, an overwhelming amount of respondents, (85%) , indicated that ICT appropriately used can enhance teaching and learning while 55% of respondents indicated they wanted to make more use of ICTs in their online teaching and learning. However, 40% of respondents indicated that were confident in using ICTs in their subject and 55% agreed; this would indicate that there may be some respondents were not as comfortable as their counterparts. Respondents were asked if they were satisfied with their current online teaching methods only 10% strongly agreed, 60% agreed, 20% were neutral and 10% disagreed (See Figure 1, Appendix A).

When analyzing perceptions of survey respondents as to barriers to the use of ICTs, an overwhelming 31.6% agreed that lack of time was an issue while 26.3 strongly agreed. In relation to the lack of training in the use of ICTs, 15.8% strongly agreed that there was a lack of training on the use of ICTs. Conversely, 42.1% agreed, 26.3% disagreed and 15.8% strongly disagreed that lack of training was an issue. Respondents overwhelming agreed that lack of training was a barrier (See Figure 2, Appendix A).

With the use of various ICTs in online teaching and learning, technical support is crucial to support the teaching and learning environment not only for students that are enrolled in the course but for the instructional leaders and tutors as well. Survey respondents were asked if technical support was a barrier to the use of ICT 31.6% agreed, 36.8% disagreed, 21.1% strongly disagreed. Overall it would appear that technical support is not a barrier to the use of ICTs in the online teaching and learning environment (See Figure 2, Appendix A).

Respondents were asked about the factors they considered when deciding to use technology in their teaching via e-learning and over 90% indicated that it was used to enhance student learning, followed by appropriateness and improvement of teaching. Other indication included the ease of use, time, and policy/procedures/strategies, student expectations and confidence (Figure 3 Appendix B).

While the overall reason for using technology in teaching favored enhancing student learning, respondents were asked which factors were considered when deciding "which" technologies to use in teaching. Ninety-five (95%) of respondents indicated that appropriateness was the deciding factor followed by 90% of respondent indicating it was for the ease of use for student and 80% indicating it was to enhance student learning. Other factors indicated were time/workload implications, reliability/speed of the Internet, advice/training, cost of technology, peer recommendations and the lastly because of research, either Internet or literature (See Figure 4 Appendix B).

Respondents indicated that technology enhances online teaching and learning and there is a considerable amount of attention given to the appropriate technology to use. In looking at the use of ICTs in the online environment, respondents were asked which technologies have a positive impact. Overwhelmingly 47.4% strongly agreed that Slideshow presentations had a positive impact on their teaching while 60% agreed that Virtual Learning Environments had more of an impact. The majority of respondents did not know if other ICTs such as e-Assessments, Podcasts, e-Portfolios, Blogging, WIKI's and Social Bookmaking had a positive impact on their teaching (See Figure 5 Appendix C).

Survey responses indicate the majority representation, 55%, are in the Social Science Discipline. The survey responses indicate some gender differences in how long respondents have worked for the University as a high proportion of respondents had worked at the University between 6 - 10 years. Other identified gender differences was 63.2% of respondents were women and 36.8% were men. Of the nineteen countries surveyed, the majority of respondents, (35%), were from Jamaica followed by 25% from Trinidad and Tobago and 15% from Barbados.

DISCUSSION

Respondents were asked about their use of ICTs in teaching. Eighty-five percent of respondents reported that ICT appropriately used can enhance teaching and learning while 55% of respondents reported that they would like to make more use of ICTs in their teaching. However, of the same group of respondents only 40% were strongly confident about using ICTs in their subject area. It would appear that respondents are open to the use of ICTs in their teaching but it would depend on how comfortable they are with the technology. Of respondents, 42.1% cited that lack of training and availability of resources are major barriers to the use of ICTs.

While this research looks specifically at assessing the use of ICTs in teaching and e-learning, it appears that respondents have used an ample amount of ICTs in their teaching both face-to-face and online. Respondents also indicated some of the major factors considered when deciding on the use of technology in their teaching are enhancing student learning, appropriateness of the environment, and improving their teaching. In deciding which technology to use in their teaching, the majority of respondents reported appropriateness for the course, the students enrolled in their course and to enhance student learning.

CONCLUSION

Assessing the use of ICTs in teaching and learning is a way to identify variables that are the most important to the online learning environment and to skills necessary to facilitate e-Learning. While ICTs of various types are used to facilitate e-learning another important part of e-Learning is to make sure the e-Lecturer delivering the materials via the online learning environment has the requisite effective skills to deliver what is required to the students they teach.

While the University's main mode of programme delivery is via the online environment, e-Lecturers are trained before they teach in the environment and are provided support throughout the length of the course; it is always prudent to, as a quality assurance mechanism, to continually identify potential needs for training.

Based on the results of this study it can be concluded that there are numerous opportunities for training in the use of ICTs and further, a need to train e-Lecturers who are already familiar with the technology to a comfortable level.

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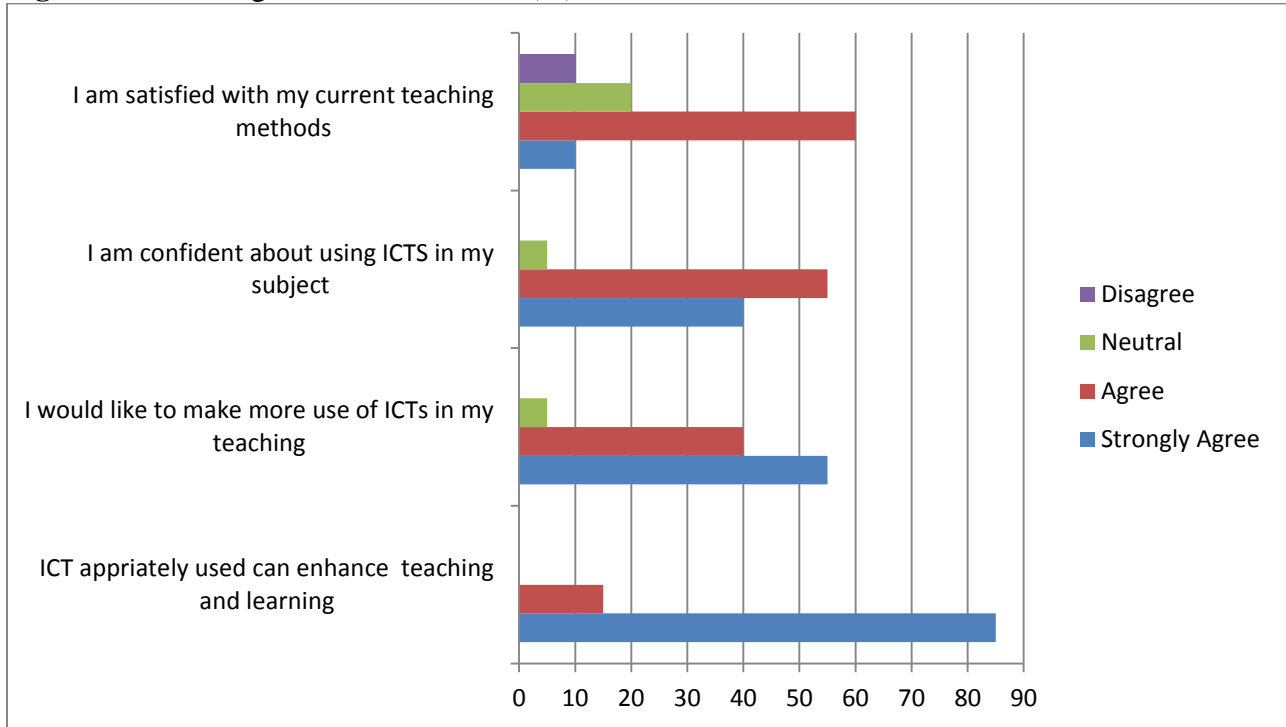**Appendix A**

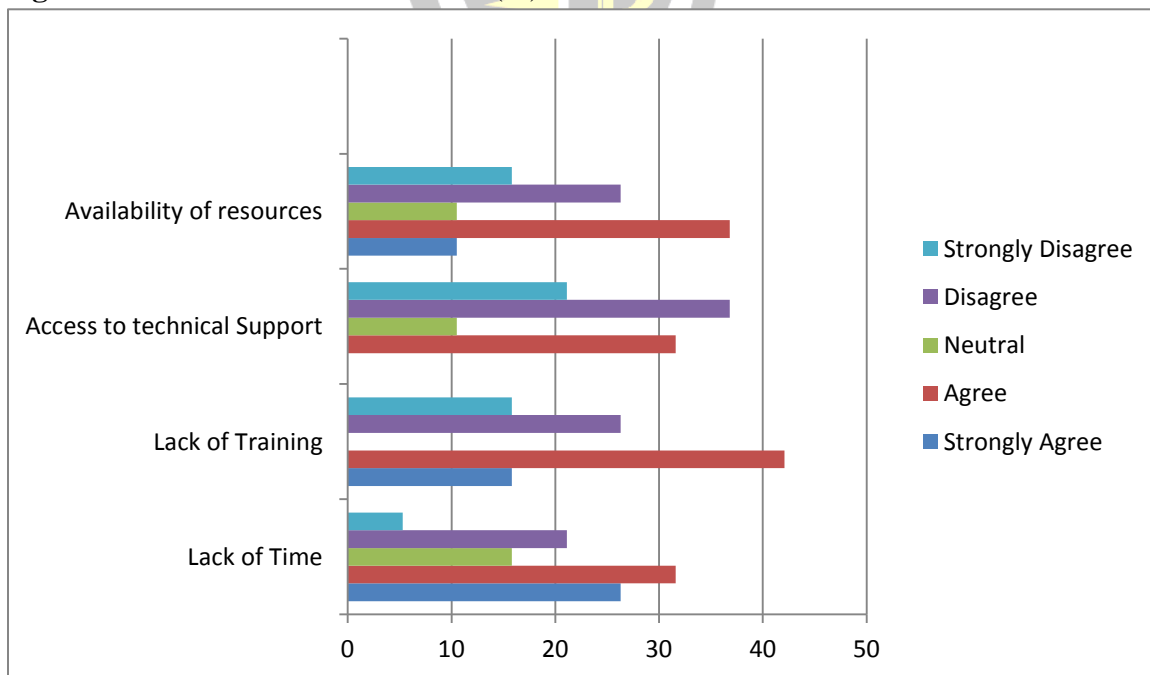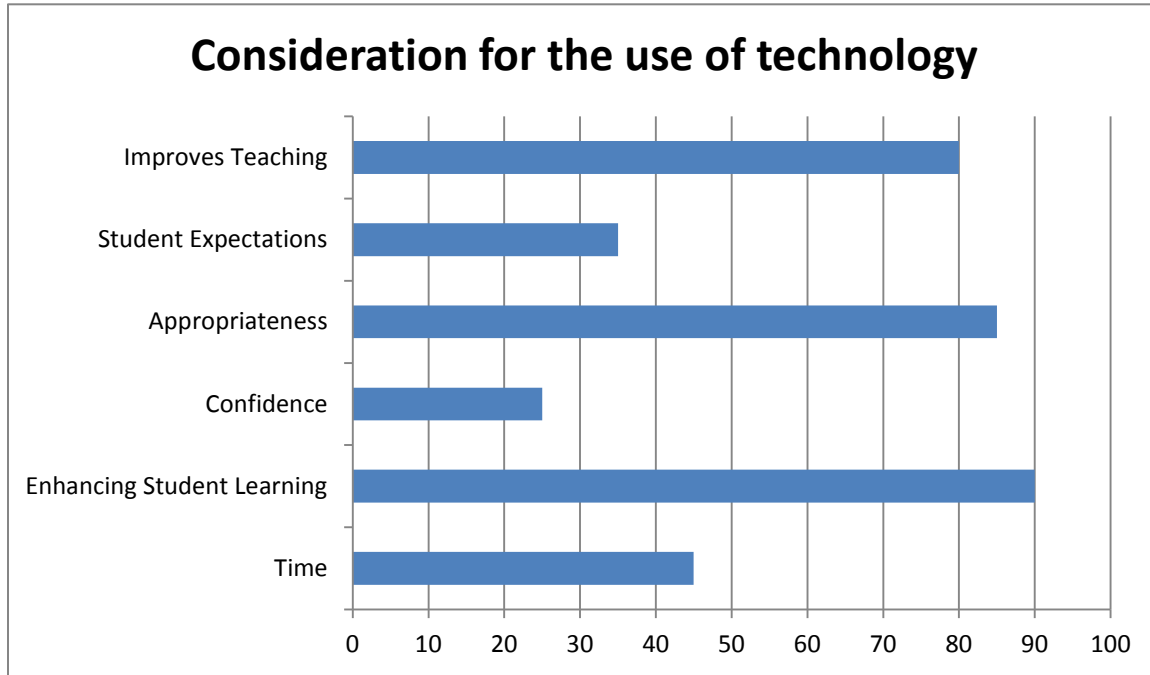**Figure 1:** Teaching and the Use of ICT (%)
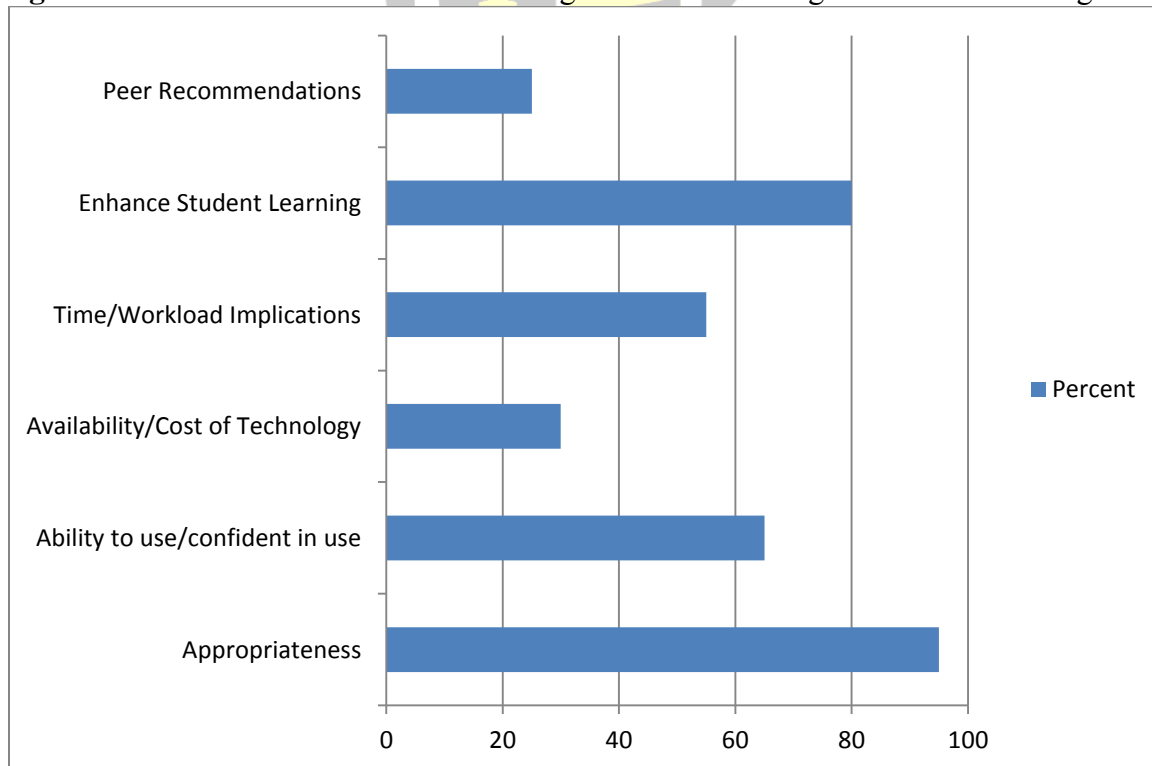

Figure 2: Barriers to the Use of ICTs (%)

Appendix B

Figure 3: Factors consider when deciding to use ICT in Teaching

Figure 4: Factors considered when choosing "which" technologies to use in teaching.

Appendix C

Figure 5: Technologies that have an important impact teaching