IN-DEPTH INVESTIGATION INTO THE DESIGN AND DEVELOPMENT OF E-LEARNING SYSTEM AT SUKHOTHAI THAMMATHIRAT OPEN UNIVERSITY

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ABSTRACT

The goal of this case study was to examine the Sukhothai Thammathirat Open University e-learning system in terms of designing and developing courses, learning and teaching processes, and interaction among course design team members. The purpose of the study is to answer the following research questions: What is the current state of the e-learning system? How can the current Sukhothai Thammathirat Open University e-learning design and development be improved? A purposeful sampling strategy was used to select nine participants to provide information to address the questions and the purpose of the research. The data revealed eight thematic categories related to participants' working experiences in the Sukhothai Thammathirat Open University e-learning context that describe the current state of e-learning system: (a) deliberate policy leading to e-learning design and development, (b) attitude and teaching process of instructors, (c) ability of educational technologists, (d) process of e-learning design and development, (f) infrastructure for teaching process, (g) alignment of assessment and learning activities, (h) digital divide and students' fluency in English, and (i) strengths of Sukhothai Thammathirat Open University's e-learning.

Keywords: *E-learning, Open University, Distance education, Adult learners*

INTRODUCTION

This study directly involves the e-learning context at Sukhothai Thammathirat Open University (STOU), which requires a revisit through research. The research results will ultimately lead to changes and improvement of the university's current distance learning system. The emerging themes will guide the university administrators, faculties, and officials in formulating effective frameworks congruent to operation sessions.

Initially, STOU employed a distance learning system based on multimedia packages. However, emergent learning theories and the influence of advanced technological tools led

to the reconsideration of this distance learning strategy. E-learning has been utilised to supplement the traditional distance learning system or printed materials as formulated in a master plan. STOU academics use this plan to guide the design and development of courses.

CHARACTERISTICS OF E-LEARNING AT STOU

The implementation of e-learning at the university, a 2010 e-learning course management manual was used to guide the design and development of courses. It is not clear whether e-learning was used as a supplement for printed materials or as a distance learning approach in which learning processes take place based on formulated activities and course materials. So far, e-learning course development aspects have not been congruent with the 15-year STOU development plan (2013–2027), which emphasises the use of e-learning instead of STOU's traditional distance learning system. In addition, the learning theory used as a guideline for course development has not been conducive in helping students to construct their own knowledge (Garrison, 1993; Rodchompoo, 2012; Winn, 1990). Most importantly, posting content that is merely extracted from printed materials to the learning course management system reflects delivery of the same content in different formats. The focus on e-learning of given content lacks learners' interaction and the support of a learning community that proposes different worldviews.

In addition, the roles of course team members are not clear among faculty members and the development of courses lacks an operational framework to guide and support the design of learning activities to ensure that learning processes take place. Based on these identified defects in the system, an in-depth qualitative research on e-learning at STOU to formulate an effective university strategic plan in accordance with the recognised principles of mainstream e-learning was carried out.

This study was guided by two purposes: (a) Analyse the e-learning context; and (b) Identify ways to improve the e-learning system. The research design was developed to address the following research questions: (a) What is the current state of the STOU e-learning system? (b) How can the current STOU e-learning design and development be improved?

ADULT LEARNING AND ONLINE COURSE DESIGN AND DEVELOPMENT

There are several approaches to designing and developing online courses for adult learners, whether those designs are overarched by learning theories or technological tools. In designing an online course, one is not restricted to the application of a single learning theory (Cercone, 2008). An important factor to consider is the range of differences in student learning methods. Adult learners hold diverse types of experiences, either from private life or from work experience. They do not focus solely on the learning process, as they hold family responsibilities along with work responsibilities (Merriam & Caffarella, 1999). Therefore, learning about adult learners' characteristics is by far the best foundation for designing distance education courses for adults (Dabbagh, 2007).

Cercone (2008) noted that adult learners tend to be familiar with traditional learning approaches in which learners listen submissively to lectures, without discussion with or response to others. They are likely to expect instructors to deliver the content to them as they receive it passively. Open universities in Thailand have long used the traditional approach based on lectures, printed materials, and assessment through written tests.

It is generally agreed that online learning is one of the most effective distance learning approaches to enable adult learners to obtain knowledge conveniently. Through online learning, adult learners can make time arrangements prior to participating in learning courses, have interactions with instructors and fellow students, and conduct their learning activities within a learning community. However, online learning or e-learning is somewhat new as an instructional approach in some educational contexts. In those contexts, instructors must adjust their approaches and techniques to apply technological tools. Course development teams, including subject matter experts and instructional designers, should study carefully how adult learners learn, especially in the context of distance learning and online learning (Moore & Kearsley, 2012).

Most importantly, the attitude of instructors and learners towards online learning activities is significant to the success of online learning, especially concerning learning skills gained from the course, interactions in the learning community, and appropriate assessments aligned with the given learning activities, time management, and writing skills (Conrad & Donaldson, 2004).

Engaging online learners is crucially important in teaching online. This is because engaged learning in an online environment enables instructors to know what learners have been doing while teaching online (Robinson & Hullinger, 2008). Engaging online learners is the learning aspect reflecting learners' attention and the ways they devote themselves to the learning process (Shieh, Gummer, & Niess, 2008). Online engagement is far more significant than online participation which only focuses on fulfilling the learning criteria formulated by the instructor. In addition, the study about improving working effectiveness and working skills among workers in an organisation represented workers' satisfaction within their community (Wefald & Downey, 2009). Once adults become experienced in learning engagement and devote themselves exclusively to what they do, they experience a positive feeling (Goleman, 2006). Confident learners who tended to develop good rapport in an online learning environment saw their participation in an online learning course as a challenge (Offir, Bezalel, & Barth, 2007).

RESEARCH DESIGN

A qualitative case study research design was chosen to examine the state of STOU activities in designing and developing e-learning courses. The purposefully chosen participants represented a diverse sample of faculties and offices involved in conducting e-learning. Nine participants were selected from the following disciplines: seven subject matter experts, one educational technologist or instructional designer, and one evaluator. The participant sampling consisted of four women and five men; two participants were relatively new faculty members of three years while the others had a longer service tenure, specifically 15 and 30 years respectively. All participants had experience with the STOU e-learning system but from different fields of study. The research method consisted of the Seidman (2006) in-depth interview, journal logs, and academic artifacts. All of the data came solely from participants' experiences and worldviews (Marshall & Rossman, 2006). Iterative analysis was utilised to extract the major themes from the data.

FINDINGS

(1) Policies and plans for STOU e-learning should be based on an understandable policy and framework that guides the conduct of e-learning courses; the policy for stipends for teaching e-learning courses should be reviewed and revised; the use of e-learning techniques for compulsory supplementary seminars should be reviewed. Improvement of STOU e-learning should be based on consideration of current learning theories as

the foundation and guideline in designing and developing e-learning courses: distance learning theory, learning theory, and distance learning strategy. It should be acknowledged that the distance learning theory has undergone significant changes, from a theory of industrialisation to a theory of transactional distance and learning autonomy, to a theory of teaching in distance education, to a theory of reintegration of teaching and learning acts, to a theory of communication and learner control, to a three-dimensional theory of distance education (Amundsen, 1993). Most importantly, today's distance educator should implement a distance learning system that supports the acquisition of knowledge based on the construction of knowledge instead of clinging to behavioural learning theory that has been described as "a sort of correspondence with bells and whistles" (Shale, 1990, p. 333, as cited in Amundsen, 1993, p.73). STOU's philosophy is based on providing a distance education system as part of lifelong education. This mission is vital for human resource development in Thailand. Today's learners are equipped to gain knowledge via information technology. The STOU distance learning system must be improved in accordance with the evolution of distance learning approaches.

(2)   Instructors or subject matter experts are heavily influenced, and in some ways restricted, by their overload in the traditional distance learning system based on the printed materials, namely, written modules. In addition, instructors' attitude towards e-learning and understanding of the mainstream distance learning theories are insufficient to change the roles of teaching e-learning. Consequently, most instructors use e-learning to deliver content; instead, diverse learning activities should be provided to be substantially supportive in broadening learners' identities. Most importantly, the criteria of academic promotion for instructors have not been adjusted for e-learning accordingly. This has not motivated subject matter experts to pay attention to e-learning. It is recommended that instructors and subject matter experts carefully review these influences and identify the advantages of e-learning in today's distance education system. Traditional responsibilities must be revised to make the assumption of e-learning courses possible. The criteria for academic promotion should be reviewed regarding responsibilities for conducting e-learning courses.

(3)   Educational technologists or instructional designers must be well versed in skills involving technological tools and be able to guide subject matter experts in designing and developing e-learning courses.

(4)   The process of designing and developing e-learning courses should consider the following: a workable course development team, content that is appropriate for e-learning, and an e-learning training course. Developing e-learning activities through technological tools is a challenge for distance educators (Agostinho, 2009). A capable course development team is a critical factor in designing and developing courses effectively (Rodchompoo, 2015). Most importantly, effective course design and development ultimately leads to engagement of the learning community in which learners actively participate in their learning (Bonk & King, 1998; Norris, Mason, & Lefrere, 2003; Palloff & Pratt, 2007; Salmon, 2002).

(5)   E-learning teaching and learning processes need improvement of infrastructure and clarification of the roles of e-learning personnel. These personnel must be properly trained in principles of video production to support development of effective course materials.

(6)   Assessment of learning and of e-learning courses should be guided by alignment of learning objectives, learning activities, and evaluation of the accomplished learning.

(7)   Those who design and develop e-learning courses must pay attention to the digital divide, to adult learning styles, and to English, the mastery of which is a major challenge for Thai learners.

(8)   The effectiveness of e-learning is based on convenience of the course to prospective learners, designers' knowledge and understanding of learners' learning styles, and techniques that will enable learners to experience learning activities at times and places of their choice, without the face-to-face aspect of the traditional classroom.

DISCUSSION

The method of delivering course content through e-learning underlines the influence of behavioural learning theory. This is demonstrated vividly in the teacher-centred aspect that evaluates end-product learning which requires only rote memorisation of materials provided by the instructor. Hence, Thai students still rely on rote learning and banking education to meet behavioural learning objectives (Freire, 2009). They are not confident enough to think in different ways in order to liberate themselves and create societal changes.

The STOU e-learning learning system should be designed and developed by taking into consideration learner-centred orientation that applies several types of interactions via educational technological tools and the importance of unobservable behaviours inherent in individuals (Anderson & Garrison, 1998; Kearsly, 1995; Lefoe, 1998; Picciano, 2002; Swan, 2005).

Many Thai people follow Lord Buddha's teachings, especially the Four Noble Paths. This teaching urges people to identify problems that should be analysed prior to problem solving. By following these precepts, people can find ways to solve problems through critical thinking processes (Brookfield, 2005). With that in mind, this qualitative research study had been conducted to identify problematic issues that must be dealt with to improve STOU's long-standing e-learning services for distance learners. It is important that administrators of these services gain insight into the current situation and respond to the voices of participants. This insight should lead to operational sessions to generate substantial changes to STOU's e-learning system. In addition, principles of sound learning theories and pedagogy for designing and developing online courses must be considered so that learners can succeed in an e-learning system (Anderson, 2008; Trail-Constant, 2016). Finally, diverse types of technological tools should be provided in online courses to help learners become fluent and familiar with tools that will prepare them for alternative careers in the future (Grata, 2016). The learning process must be designed to cater to people from all walks of life in lifelong education.

SUMMARY

In attempting to answer the research questions, eight themes were discovered in this study : They are (a) Policies and plans for STOU e-learning should be based on an understandable policy and framework which guide the conduct of e-learning courses; (b) Instructors or subject matter experts are restricted by their overload in the traditional distance learning system; (c) Educational technologists or instructional designers must be well-versed in technological tools skills; (d) The process of designing and developing e-learning courses should consider a workable course development team, appropriate content to conduct e-learning, and an e-learning training course; (e) There must be improvement of infrastructure and clarification of the roles of e-learning personnel; (f) Assessment of learning and of e-learning courses should be guided by alignment of learning objectives, learning activities,

and evaluation of the accomplished learning; (g) Attention should be paid to the digital divide; and (h) There should be techniques that enable learners to experience learning activities at the time and place of their choice.

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