A STUDY ON FRAMEWORK OF EDUCATIONAL TECHNOLOGY AND COMMUNICATION CENTER TO SUPPORT ONLINE DISTANCE LEARNING COURSES FOR HIGHER EDUCATION IN THAILAND[*]

การศึกษาขอบข่ายงานของศูนย์เทคโนโลยีและสื่อสารการศึกษาที่สนับสนุนหลักสูตร การเรียนทางไกลออนไลน์ในระดับอุดมศึกษาของประเทศไทย

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Abstract

This research aimed to study on the framework of educational technology and communications center (ETC center) to support online distance learning courses (ODL courses) for higher education in Thailand. This research used qualitative research methods by case studies of two ETC centers. The key performance consisted of 5 executives and 1 staffs of ETC center. Data were collected by interviewing using semi-structured interview form and analyzed by inductive interpretation summary. The research findings were that (1) the framework of ETC

center of the case study 1 composed of 5 frameworks which were similar to all the case studies 2. The 5 frameworks were technical infrastructure investment, e-Courseware design, student support, teacher support, and electronic help desk. (2) the framework of ETC center of the case study 2 have composed of 15 frameworks including 5 frameworks and 10 more frameworks; program planning, organization structure, coordination, budgeting, public relations, orientation, registration, learner monitoring, staff support, and quality management of distance education.

Keywords: framework of educational technology and communication center, educational technology and communication center, distance education, online learning, online distance learning, e-Learning, higher education

Signification of the Research Problem

Many of higher education institutes in Thailand tried to propel their own by enhancing the innovation of using technology in the learning management to help instructors and learners to gain educational potential. This leaded to have new innovation of instructional model especially for distance education which was increasing. The extended of online curriculum to provide online content instead the classroom learning without the confrontation of instructors and learners. (Allen & Seaman, 2005; Arabasz & Bake, 2003; Bates, 2005; Kocur & Kosc, 2009; Srisakdi Charmonman, 2006) The distance education is the educational management with is convenient and flexible by using computer-mediated communications: CMC in terms of two-way communication both in synchronous and asynchronous. The content or instructional media was converted in form of electronic via networking system in non-linear and learning management system: LMS for instructional management. The instructional process is student centered approach to open the opportunity for learners to interact with content, instructors, and others and has immediate response to enhance the learning collaboration.

As mentioned, the instructional management had influenced to the higher education system in the future of Thailand. Thailand educational system is also mentioned on the preparation of using online learning in ASEAN society since 2015. Online learning should be able to shift educational system in Thailand dramatically. (Charnnarong Laksaneeyanawin, 2011: 27) The educational institutes should support the staff to use educational technology and communication to gain the learning objectives and serve the advices on educational

technology and communication for all stakeholders in education. (Pissanu Prajiongkarn, 2007; Sukhothai Thammathirat Open University, 2006)The task scope on educational technology and communication are different in any institutes. For the study in this research, the task scopes were related to educational technology and communication center to support the online curriculum of distance learning in Thailand. Educational Technology and Communication Center is the framework to support the learning management to accomplish the learning process. Even the institutes tried to adapt and prepared for learning management but the research found the problems on providing online distance learning. The amount of graduates was at the low ratio comparing with the students recruited. This leaded to have not much online courses in Thailand and there were no report indicating the dropout function of the students in higher education in Thailand. (Praweenya Suwannatthachote, 2009) The students also had alternation to study. One of the ASEAN mutual recognition arrangements on freely moving of 8 careers, the good quality instructors were competed to work in the institutes. The competition inside the country and the investment of international institutes in Thailand were the cause of the problem mentioned. (Charnnarong Laksaneeyanawin, 2011: 27

The researcher was interested to study the task scope of educational technology and communication center to support online distance learning courses for higher education in Thailand for the advantages in self-development of the institutes to be able to compete with others and handle the changes of the global society and gained the objectives and efficiency of online distance learning.

Literature Review

1. Educational Technology and Communications Center

Educational technology and communication center is the framework providing the production service, and consult on educational technology and communication. The main objective is to response the need for instructional media to gain the learning efficiency among the teachers and learners in any field of study and the limitation of educational technology and communication to reach the best efficiency. (Sukhothai Thammathirat Open University, 2006: 13) The accomplishment of the framework depends on the task and responsibility of administrator and aim to make success for the organization. Gulick & Urwick (1937) mentioned about the administration of educational technology and communication center that it's the procedure of activities to achieve the production and services in educational technology and communication by the activity of planning, organizing, staffing, directing, coordinating, reporting and budgeting or in brief POSDCoRB. Thapanee Thammametha (2003) studied the standard of

educational technology in the university in Thailand and found the 14 standard as follow: (1) design and develop the instructional media, (2) design and produce the instructional media, (3) training on educational technology, (4) research and development on educational technology, (5) evaluation inside and outside the organization, (6) diffusion on educational technology, (7) graphics for instructional media production, (8) printed material production, (9) video and radio program production, (10) audio and radio program production, (11) computerized media production, (12) educational technology help desk services, (13) instructional media and audio-visual services, and (14) planning and management on educational technology . The framework of educational technology and communication needs to have the system management and work process to achieve the objectives of framework effectively.

2. Online Distance Learning

Online Learning is a part of distance education which takes information technology to support the distance education via the use of electronic devices. It is the online learning or electronic learning: e-Learning, in terms of 2 meaning: the first is in holistic approach that includes all types of electronic devices such as computer, internet, intranet, extranet, television signal, and satellite. (Thanomporn Laohajarutsang, 2002: 4-5) and the other meaning is focused on the online learning or the use of web technology by connecting computer network system for instruction. It is the delivery of knowledge from teachers to learners and the learners study content that contains texts, still pictures, animation or motion pictures, and audio. The learning activity is designed for learners to interact with the lessons, teachers and among learners. There are learning resources for online learning and communication via internet using online tools to communicate and share the knowledge among learners. The technology is applied to use in course management system: CMS to provide the convenience of content classification and learning activities for the stakeholder in online learning system such as recording system, following up, evaluation. (Catherall, 2005: 2, 196; Thanomporn Laohajarutsang, 2002: 4-5) The main characteristic of online learning is anytime and anywhere which the teachers are not need to encounter in one place. The communication tools are used for communication both ways among teachers and learners that is called two - way communication. It includes synchronous and asynchronous. The content is delivered in electronic form via networking system by non-linear way. The learning management system is also used in the instructional system by individual. This type of learning opens the opportunity for learners to interact with the content or others and the feedback is occurred immediately.

This learning process is one of the cooperative approaches that connect learning community to learn together. (Cheawjidakarn, 2013: 16)

3. Critical Success Factors for Online Distance Learning

The critical success factors are the component or main variables for the framework. (Bacsich et al., 2009: 90; Ingram et al., 2000 cited in Puri, 2012: 150; Mongkol Yongrakkiat and Santichai Jongthamjinda, 2010: 31; King Mongkut's University of Technology, North Bangkok, 2004: online) By the concrete way of working in the educational technology center in the same route, the official and administrators of the framework should know what to do to achieve the goals as the vision of the organization. (Mongkol Yongrakkiat and Santichai Jongthamjinda, 2010: 31; King Mongkut's University of Technology, North Bangkok, 2004: online) Hence the distance education needs to identify the success factors to use as a framework for the achievement of the organization. There are many frameworks and the experts had identified for success function of distance education such as e-learning implementation, quality assurance system for e-learning) The analysis of documents that it can be grouped into 5 factors: 1) Institutional Management 2) Learning Environment 3) Instructional Design 4) Services Support and 5) Course Evaluation. Each of these 5 factors includes several important elements that can assist to enhance efficiency of online learning courses in higher education institutions. It is a concrete approach to lead functions of an online institute or course in all levels to the same directions for achieving the success of the institute's vision, and make staffs and executives know what they have to do for the success of online distance learning. (Cheawjidakarn, 2012: 61)

4. Context of Online Distance Learning Courses in Thailand

The National Education Act B.E. 2542 (1999) of Thailand identified the lifelong education for people with varieties of educational activities to response the need of individual and society without joining the classroom. This is to extend the opportunity for students and people to learn and gain knowledge as they are interested at anytime and anywhere. The opportunity to learn depends on the personal ability and harmonized to the development of information technology in Thailand. It is also able to help for increasing the efficiency of educational quality in higher education. The online learning curriculum in Thailand existed only in the graduate school in higher education and there are not a large number of online learning curriculums in Thailand and recruited from the graduate who finished from the university. The students who were recruited to study in online learning curriculum mostly study for the second certificate of them. Ministry of Education (2005) identified about "The

Regulation of Distance Education Curriculum B.E. 2548 (2005)" that the institute to provide the online learning curriculum should be approved legally and under the control of ministry of education. The standard of educational management should be similar to the normal system and comparable to the standard curriculum of country. The committee of higher education commission has responsibility to direct, control, follow up and evaluate the distance education to achieve the quality and standardization.

Research Framework

This research framework composed of the principle and concept from document analysis and interviewing the stakeholder in related case study as the figure 1

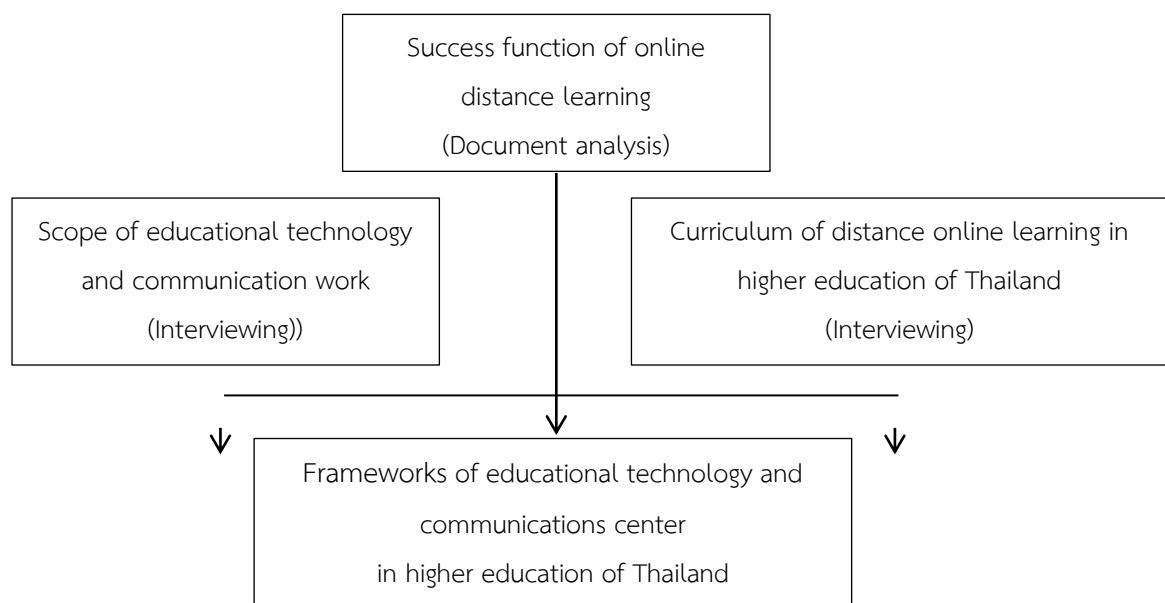**Figure 1** Research framework

Research Questions

What are the scope of educational technology and communication center and how to support the online distance learning of higher education institutes in Thailand?

Research Objectives

To study the scope of educational technology and communication center to support the online distance learning of higher education institutes in Thailand

Research Methodology

    1. Selection of case study and samples

    The case study of this research was the educational technology and communication center that provide the online distance learning in academic semester courses and approved by the office of higher education commission: OHEC of Thailand both the government and private universities.

    Selection of case study was done by considering at the online curriculum in academic semester courses. The case study approved 2 curriculum; the curriculum for a Bachelor of Accounting and Bachelor of Law. (Name reserved)

    The key performance of this research were the administrators of the two educational technology and communication centers. There were five administrators in case study 2. Since there was no educational technology and communication center in case study 1, the researcher analyzed the scope of online curriculum related to educational technology and communication work and presented to one of the staff to improve and correct the information.

    2. Steps of the Research

    2.1 The study on task description of educational technology and communication center from the case studies in document and websites of the framework that support the curriculum of online distance learning in case study 1 and 2.

    2.2 The creation of semi-structured interview form - the description on task analysis in educational technology and communication center were used to be the questions in the interview form for the case study.

    2.3 The data collection - the data from interviewing in any case studies was done by taking note while interviewing and recording the sound of administrators and the staff of educational technology and communication center who worked related to the curriculum of online distance learning.

    2.4 The data analysis was done by inductive interpretation summary. The data was inductive analyzed and interpreted in the table as the questions structure.

    2.5 The selection on task of educational technology and communication center – all tasks from the interview were selected even in case study 1 or 2 and both in case study 1 and 2.

    2.6 The data or information of the study was presented to the adviser and co-adviser to correct and improve as suggestion.

2.7 The summary of the study – the information from the study was summarized to be the scope of educational technology and communication center to support the online distance learning of higher education institutes in Thailand.

3. Research Instruments

The research instruments in this research was interview form about the scope of task in educational technology and communication center to support the online distance learning of higher education institutes in Thailand. The description of task that support the educational technology and communication center to support the online distance learning was used to create the questions for interviewing. The questions were open – ended questions with 3 sections; 1) personal information of the interviewees, 2) the questions for interviewing beyond the context of case study, and 3) the suggestion of interviewee.

The interview form was approved by 3 samples (the adviser and experts in educational technology and communication center) to gain the content validity using index of item-objective congruence and the language used.

4. Data Collection

The data from interviewing was collected by the researcher. The data collection was as follow:

4.1 The interview was done by recording the sound and the interviewee was free to answer the questions.

4.2 The interview was informal situation by asking and answering question and observation.

4.3 The non-participant observation was summarized by the researcher. To make data reliable, the researcher asked the related staff again.

5. Data Analysis

Data analysis from interview was done by inductive interpretation summary.

Research Findings

The result of the research from interviewing the both educational technology and communication centers found that the scope of educational technology and communication tasks supporting the online distance learning of higher education institutes in Thailand were as follow: case study 1 – there were 5 scope of educational technology and communication tasks with 33.33%, and case study 2 – there were 15scope of educational technology and communication tasks with 100% as shown in the following tables.

Table 1 the result on scope of educational technology and communication tasksto support the online distance learning of higher education institutes in Thailand

Tasks of educational technology and communication center to support the online distance learning of higher education institutes in Thailand				
Main function (4)	**Sub function (7)**	**Task Description (15)**	Case study 1 (5)	Case study 2 (15)
Project Administration Function	Framework	Project planning	-	✓
		Structure of administration	-	✓
		Cooperation	-	✓
		Budgeting	-	✓
	Operation	Public relation	-	✓
		Orientation	-	✓
		Registration	-	✓
	Investment	Basic structure of technology	(✓)	✓
Instructional media Design Function	Learning Management System	Electronic lessons	(✓)	✓
		Following up learners	-	✓
Service and Supporting Function	Human resources	Learner support	(✓)	✓
		Teacher support	(✓)	✓
		Staff support	-	✓
	Electronic resources	Help desk services	(✓)	✓
Curriculum Evaluation Function	Quality Assessment	Evaluation of distance learning quality	-	✓

Note ✓ is the task data of educational technology and communication center from the study

(✓)is task data for distance learning curriculum of educational technology and communication center from the study

The result of the study on the tasks of distance learning curriculum of educational technology and communication center in any case study were as follow:

1. The task scope of educational technology and communication center of case study 1 had 5 scopes composed of technical infrastructure investment, e-Courseware design, student support, teacher support, and electronic help desk.

2. The task scope of educational technology and communication center of case study 2 had 15 scopes composed of technical infrastructure investment, e-Courseware design, student support, teacher support, and electronic help desk, program planning, organization structure, coordination, budgeting, public relations, orientation, registration, learner monitoring, staff support, and quality management of distance education.

Discussion

The educational technology and communication center (ETC center) to support online distance learning courses (ODL courses) for higher education in case study 1 and 2 both had 5 frameworks: 1) technical infrastructure investment, 2) e-Courseware design, 3) student support, 4) teacher support, and 5) electronic help desk. All 5 frameworks are very important for online distance learning courses and harmonized to the principleof educational technology and communication center which has main objectives in production, services, and giving advice on educational technology and communication in the institues. (Sukhothai Thammathirat Open University. (2006). Moreover, the research found that the case study 2, there were the settlement ofeducational technology and communication center to support online distance learning courses and there were 10 more frameworks from those 5 of the case study 1; 6)program planning, 7) organization structure, 8) coordination, 9) budgeting, 10) public relations, 11) orientation, 12) registration, 13) learner monitoring, 14) staff support, and 15) quality management of distance education.The experts agreed that the additional frameworks were not only the concept of educational technology and communication center but the frameworks were similar to the institute of distance learning that are dramatically ooccurred in the future. (Chaowalert Lertchalolarn. 2014; interview,Sugree Rodphothong.2014; interview)The institutes inside and outside the countrysettled the central unit for curriculum administration such as Kansas University had the KU Center for Online and Distance Learning that provided the services for online curriculum management of the institute and support learning resources for learners and also provided the online test center.

The online learning management that apply technologies to the instruction system effected to the investment of infra structure of technologies. The strategy of institute that provide online distance learning is to realize the importance of technology and from the document analysis, the framework found the bufgeting with appropriate ratio with the need of instructional system in ling term investment. (Bacsich etal., 2009; Puri, 2012; Kanokporn Chantanarungphak, 2010) So the investment on infra structure of technology should have a strategy to control the expense that is harmonized to the institute's operation plan. The study on case study 1 and 2 found that the technology was completely hired from the private company. Moreover the human resources were also hired such as the administrators of learning management system, staff of media production because these people were specific and specialized in work operation. So the institutes had to use services from private company to support the task of educational technology and communication center to take care of online curriculum management for more efficiency. Both of case study 1 and 2 were private unversity, so the management was to earn for benefit of the organization and served the investment of the institute as well. The value evaluation for investment about infra structure of technology is to consider to match the objectives of investment including to reduce the costs also. (Bates, 2005; Bacsich, etal., 2009; Puri, 2012) Other from this, the criteria of quality evaluation of distance learning management 2012 identified the institutes had to provide the educational technology to support learning management to response the curriculum management. The institute must have the strategy to evaluate the basic need if using technology appropriately which was harmonized to Kanda Wongwailikit (2012: interview) that 'to hire the services from private company is better and the cost is cheaper" so the services of private company was able to gain the efficiency of online distance leducation.

Suggestion

Suggestion for research application

A consideration of using the model of educational technology and communication center to support online distance learning courses (ODL courses) for higher education in Thailand should be focused on the settlement of the framework and the capability of the organization in three ways as follow:

1. The educational technology and communication center to support online distance learning courses (ODL courses) for higher education in Thailand should be completely operated in all tasks or frameworks in educational technology and communication and served

547

by outsource or private company because the lack of specific staff who is specialized in work operation.

2. The educational technology and communication center which was administrated by the educational technology and communication center of the institute was working together of online curriculum distance learning and educational technology and communication center. The case study of educational technology and communication center with staff get ready to support educational technology and communication tasks such as media production team, and electronic help desk team.

3. The new educational technology and communication center that support online distance learning curriculum can be the central unit to provide curriculum management and control the curriculum management to gain standard of educational technology and communication center. This model of educational technology and communication center are used in the future.

Suggestion for further research

1. This research is the case study of educational technology and communication center to support completely online distance learning courses (ODL courses) for higher education in Thailand with no confrontations and can graduate the bachelor degree same as the classroom learning. The study on samples studying with blended learning should be done.

2. This research studied the case study in higher education. There should be the study in the other level of study to gain the framework of educational technology and communication center for example the graduate study level.

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