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ABSTRACT

This paper discusses library and information science distance education in Thailand. Following an introduction, background information is provided on distance education, including reasons why many countries have found distance education to be a good way to disseminate education (i.e., geographical isolation, social isolation, and disadvantaged groups), and changes in technology. World Wide Web-based instruction (WBI) is covered in the next section, including the Web as a source of information, as electronic book, as teacher, and as a communication medium between teacher and students. Principles to be taken into account in designing effective WBI are also summarized, including motivating the learner, identifying what is to be learned, reminding learners of past knowledge, requiring active involvement, providing guidance and feedback, testing, and providing enrichment and remediation. The next section addresses interaction needs in distance education. The instructional systems design (ISD) model is described in the fifth section, including the analysis, design, development, implementation, and evaluation phases. The sixth section discusses library and information science distance education, and the seventh section provides an overview of programs in Thailand at Sukhothai Thammathirat Open University, Ramkamhaeng University, and Suraneree University of Technology. (MES)

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Library and information science distance education in Thailand in the next decade

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Paper

1. Introduction

The concept of teaching library and information science at a distance has been adopted and practiced by many library schools in different parts of the world including Thailand. The advent of the Internet as a means of information access and distribution, and the explosive growth of the World Wide Web (Web) have transformed distance teaching from a broadcast mode to an interactive one. Although, there are many advantages to distance learning, up until now there have also been some criticisms and concerns. Those concerns include whether or not distance education is a suitable mode of education for library and information science, and whether the quality of media used matches the quality of in-class instruction.

Instructional system design model (ISD) is a systematic process that helps the instructional designer make decisions about the nature and scope of instruction. It is based on the premise that learning should be developed in accordance with orderly processes and have measurable outcomes. Even though, there are many ISD models, all of these models include the processes of analysis, design, development, implementation, and evaluation (Seels & Glasgow, 1996, p.1).

With the high advanced technology of telecommunication and limitations of the learners, distance education is expected to play a vital role in library and information science education. As a result, many library schools are seeking workable distance education systems for themselves. To succeed in teaching library and information science at a distance, the entire faculties and related people must get involved in the development of courses and curriculum for distance education. And to meet that target, they have to understand thoroughly the

distance education system, and how ISD plays role in choosing suitable delivery systems that made the students achieve the required goals.

2. Distance Education

At least three reasons explain why many countries have found distance education to be a good way to disseminate education to all societies. They are: geographical isolation, social isolation, and disadvantaged groups. People may be geographically isolated because of distance, terrain, or undeveloped communication systems. Australia, for example, is 4,000 kilometres from north to south and equal distance from east to west. It has a population of less than 15 million people, living in isolated rural areas, who depend on distance education from their first year of school.

People can become socially isolated for a number of reasons. Mostly it is because they are disadvantaged in some way, financial, physical, emotional, or because of family circumstances. This is the group which distance education can help most. Some people lack confidence in their own ability to learn. One of the obvious manifestations of this lack of confidence is a reluctance to participate in face-to-face classes where they feel their shortcomings will be exposed. In fact, many people refuse to participate in an education program because of these very reasons. Distance teaching techniques enable people to undertake a course of study in privacy. Thus, they can learn at their own pace and take refuge in the fact that they can succeed or fail without being publically exposed. Many of these people, when they achieve success, and gain confidence, may elect to transfer to the face-to-face mode. In short, their introduction to education is obtained through distance education (Taylor, 1985, p.2).

Distance education is an educational system which emphasizes individualization of instruction and provides learning in a place or time different from that of the instructors or other students. It employs contemporary technological developments to deliver knowledge to students using new modalities. Its concept can be traced back more than a century. It appears to be closely related to the collateral concepts of distance teaching, distance learning, telecourse, home study, independent study, external study, open university, electronic university, and virtual classroom (Verduin & Clark, 1991, cited in Yenbamrung, 1992, p.15).

Historically, the geographic isolation of students from educational institutions has been the prime motivation for developing distance education programs. The early distance education systems relied primarily on printed materials for instruction. Correspondence courses have been the most common delivery method of course materials to distant students. In such courses, student/teacher interactions take place by mail or over the phone. Interaction of this sort lacks the immediacy and spontaneity of those in the face-to-face classroom.

With the advances in technology, a variety of technologies have been used as delivery systems to facilitate distance learning. Beginning in the 1960s, broadcast television became a medium for instructional delivery from a distance. Again, in this mode student interaction with faculty was usually limited to mail or telephone communication. In the 1980s, the establishment of the VCR as a household appliance provided students the freedom to attend class at their convenience either by recording a broadcast video or viewing a prepackaged videotape.

The development of synchronous (two-way, real time interactive) technologies, such as audio teleconferencing, audio graphics conferencing, and video conferencing allowed linking the learners and instructors who were geographically separated. In addition, the development of a time-delayed feature for asynchronous computer-mediated communications (CMC) facilitates co-operative group work among distance learners. The advent of the Internet as a means of information access and distribution and the concommitant explosive growth of the Web has now transformed distance teaching from a broadcast mode to an interactive mode. The Web, when combined with other network tools such as listservs, Usenet newsgroups, and video teleconferencing can create a virtual classroom to bring together a community of learners for

interactive education.

The separation in time and place of teachers and learners does not imply that distance education is synonymous with all teaching and learning carried out over a distance. Distance education should not be the mere delivery, "at a distance," of classroom-based instruction. A verbatim transcript of a lecture circulated by post to students spread over the country does not constitute distance education. Information should be designed for a particular medium to best exploit its unique advantage (Mason & Kaye, 1990, p.15).

3. Web-based Instruction

Web-based Instruction (WBI) is defined broadly as any form of innovative approach for delivering instruction to a remote audience in which the World Wide Web is included as a tool (Relan & Gillani, 1997, p.41). Presently, several Web sites have been developed to provide learners with access to instructional resources from a distance. However, Hill (1996) noted that, most course-based or learning sites simply post course materials. In such instances, use of the Web falls far short of the potential this medium affords (p.75). According to Casey (1998), currently used Web models of learning can be identified as one of the followings:

1. *The Web as Source of Information:* This is the simplest use of the Web. It is used as a convenient place to store supporting information for traditionally offered courses. For example, for the university course which normally supplies students with various resources; printed lecture notes, assignment specifications, or practice exams which have been previously distributed in print form, students can use the Web to access sites for information required for assignments or projects. Therefore, it can be said that this model uses the Web only as a part of the learning process. Students still have a teacher in a formal classroom.

2. *The Web as Electronic Book:* Many institutions have moved to use the Web to present information in a more structured way. To use the Web, the information is structured to be used as a the teaching process. Therefore, students use the screen to read materials, activate multimedia demonstrations, take self-correcting quizzes or other activities. The course material is mostly factual information, which is to be learned from the Web page and any accompanying media. There is no interaction between teacher and the students through the Web.

3. *The Web as Teacher:* Some Web-based courses include some form of personal communication between students and other students via the use of email and perhaps chat rooms.

4. *The Web as a Communication Medium between Teacher and Students:* In this model, students learn from the teacher but "through" the Web and not "from" the Web. Thus, the Web not only presents structured information, but it also provides the communication medium for the necessary interaction. A model such as this aims to mirror a face-to-face learning environment, within which the students will be able to establish some form of human relationship with the teacher (p.52).

According to Reeves (1997), what is unique about WBI is not its rich mix of media features such as text, graphics, sound, animation, and video, nor its linkages to information resources around the globe, but the pedagogical dimensions that WBI can be designed to deliver (p.59). The aim of Web-based education must surely be to develop a model which will enable a relatively large proportion of the student population to learn relatively easily and successfully (Casey, 1998, p.51). To design effective WBI, the following seven important principles should be taken into account: motivating the learner; specifying what is to be learned; prompting the learner to recall and apply previous knowledge; providing new information; offering guidance and feedback; testing comprehension; and supplying enrichment or remediation (Ritchie & Hoffman, 1997, p.135-138).

1. *Motivating the Learner:* The use of graphics, color, animation, and sound can be used as stimuli to motivate learners. However, these techniques do not ensure motivating pages. WBI developers should also provide stimuli through inquiry arousal, in which learners encounter a problem, contradictory information, or mystery to be resolved. Other methods to increase motivation include establishing the value of what users are to learn such as linking the information to organizations, job position, or sites that include related topics. Increasing motivation can also be done by enhancing the learners' confidence in being able to complete their learning tasks such as linking the information to examples of completed projects or providing easy practice activities.

2. *Identifying What Is to be Learned:* In order to help learners achieve the goals set, it is necessary to let them know at the early stage of the course what their responsibility will be. With the tendency of users to free associate while Web "surfing," in which their attention maybe distracted from desired outcomes, it is important for Web-based instructional developers to help learners keep their instructional goals in mind. Listing outcomes or expectations as students access an instructional page is one method to help focus learners on expected outcomes. As a matter of fact, links to external sources may too easily allow learners to forget the purpose of the instruction. In order to reduce this tendency, designers should be judicious in including external links, only to those locations which offer strong support to the instruction.

3. *Reminding Learners of Past Knowledge:* To facilitate retention of information in long-term memory, learners must link the new information with related information already stored in long-term memory. Web pages have an advantage in that they are able to offer multiple links from a single location. Multiple links can help learners to link the new information with their existing information by identifying similarities, differences, or experiences between their existing knowledge structures and the to-be-learned information. In this way, students will more quickly grasp and assimilate the new information.

4. *Requiring Active Involvement:* For learning to take place, the learners must actively process and make sense of the information presented. In order to do so, the learners are required to develop an artifact of their learning. Eight strategies that can be employed to ensure that learners produce an artifact of their knowledge are requiring learners to compare, classify, induce, deduce, analyze errors, construct support, make abstractions, or analyze ideas that they encounter in the course of their Web activities.

5. *Providing Guidance and Feedback:* Guidance and feedback can be provided to users either when they explore the WBI or afterward. The provision of guidance and feedback can be conducted when users are required to make a choice among alternatives after an instruction. If these choices are designed to determine appropriate or inappropriate responses by the learners, pages linked to their answers can be used to either reinforce the correct response or explain an incorrect answer and guide the learners to a more appropriate answer. Another more complex method uses CGI (Common Gateway Interface) codes to provide learners with detailed information and alternative choices. With CGI scripts, information that students put into online text fields, buttons, or check boxes can be compared to answers in a database or text file. Feedback can give an in-depth explanation to students and active links will guide them to additional information. CGI scripts can also be written to capture variables from students, store them, and access this information later.

6. *Testing:* Learning needs to be assessed in order to ensure that students have obtained the desired knowledge. The assessment can be conducted through objective or subjective tests, or through development of products or artifacts of their learning. Online testing can be constructed with CGI scripts where information is gathered from students, compared to established criteria in text or database files, and assigned grades and/or other feedback.

7. *Providing Enrichment and Remediation:* The final step in most instructional programs is to provide learners with either remediation in areas where comprehension is lacking, or to extend

students' knowledge. Both CGI scripts and direct linking of pages can be used for these purposes.

As the information age evolves and technical advances make resources more accessible, the Web will be a viable medium to facilitate learning. WBI has the ability to provide rich learning environments in a global and interactive manner. WBI design requires thoughtful analysis and investigation of how to use the Web's potential in concert with instructional design principles. If these two forces can be integrated, it may produce a distributed, instructional medium with characteristics unlike previous methods of distance learning.

4. Interaction Needs in Distance Education

Interaction in educational settings has been analyzed in terms of "participant structures" (Levin, 1990, p.188). The importance of interactions is stressed in the literature. For example, Gilbert & Moore (1998), describe two contexts for interaction: the "social interaction" between two or more people about the learning material; and the "instructional interaction" between the individual and the learning material.

According to these investigators, instructional interactivity possesses factors related to both teacher control of content delivery and learner control of processes that relate to the presentation of and response to instructional content. As for social interaction, the interactivity between students and teachers and between students and students can sometimes have little to do with instructional learning, but can still help to create a positive or a negative learning atmosphere. These interactions also provide feedback to and from students about progress toward instructional objectives. Some types of social interaction can directly foster instructional interactions. For example, small-group discussions in a class might have high social interactivity at the same time that students are actively engaged in comparing opinions about content and objectives of key courses (p.30-31).

Zhang & Fulford (1994) noted that student perceptions of the efficacy of social interaction in a course can have significant effects on learning outcomes (p.63). Social interaction tends to have elements of mutuality, flexibility, and bi-directionality that are not as frequently found in purely instructional interaction; the participants in a social situation can start and stop, react, remain silent, etc., at will. According to Zhang (1998), social interaction among students becomes important when it is closely linked to learning objectives (p.11).

The degree to which learners require any form of encounter with a teacher will vary from none at all to a level that is critical for learning. Some learners have developed independent learning strategies, which may require little or no interaction with a teacher. Other learners require the motivation and structuring of learning that a teacher can provide. (Casey, 1998, p.53).

In a distance learning environment, a complaint often voiced by learners is that they feel isolated and unconnected. (Hill, 1996, p.76). According to Moore & Kearsley (1996), one important component that may influence student success in completing a distance education course is the degree of interaction that is provided and available. Hiltz (1994) found that when students were asked to advise faculty pertaining to the instructor's role in distance instruction, one basic principle emerged for establishing and maintaining a learning community by organizing the interaction. Specifically, instructors were urged to be flexible in their representations and activities, to provide frequent and directed questions and responses, to acknowledge comments made by students, and to provide periodic updates and reviews of discussions.

One of the goals in creating a distance learning environment is the desire to create a community of learners. The creation of a virtual community will add to the support needed in a distance learning environment to move it toward becoming an environment of learning. According to Dickinson & Willis (1996), WBI can facilitate important interactive activities between teacher and learner by creating *"Virtual" office hours and Learner-to-learner*

interaction.

E-mail and newsgroups are some Internet methods that can hold virtual office hours. Desktop interactive video through the Internet is the technology that can allow real-time question and answer sessions. The Internet can also be used to increase learner-to-learner interaction. Learners can work on assignments and team projects together by using newsgroups for group discussions and email for working on questions or assignment that are not of interest to the whole class. Another advantage of this type of interaction for distance education is that the learners are often distributed over many time zones or have different job schedules, so the asynchronous nature of newsgroups and email allows an entire class to participate in discussions.

According to Hughes & Hewson (1998), at the minimum level of interaction, the WBI needs to support both teacher and learner access to the "content," which may be presented in text, graphic, or multimedia format. It allows teachers to publish the notices, lesson notes, readings, or tasks, as well as to provide a medium for learners to publish any material they want to contribute, either privately or to the class. This may take the form of accessible items, or simply, input to the ongoing discussions. Moreover, teachers need to initiate and guide discussions on particular issues that arise. To make the learning effective, these discussions may also need to be suspended at the time the teacher sets an activity, or asks a question. The tasks may be given to individual students or to the group to work collaboratively. The teacher can form small groups with appointed leaders to facilitate the task and then request feedback from each (p.49).

5. Instructional System Design (ISD) Model

Instructional system design (ISD) is the process of solving instructional problems by systematic analysis of the conditions of learning. ISD is based upon the concept that learning should be developed in an orderly processes and have measurable outcomes. To do this one makes decisions related to each step in the ISD process. ISD requires defining what is to be learned, planning an intervention that will help learning to occur, measuring learning to determine if objectives were met, and refining the intervention until objectives are met (Seels & Glasgow, 1996, p.1).

ISD procedures and their application have developed through practice and through research and expansion of theory. Many models of the ISD process have been developed. The Instructional Development Institutes (IDI) model for public school personnel was developed under the auspices of the U.S.Office of Education, and a number of scholars in the field such as Gagne, Briggs and Wager; Kemp, Morrison and Ross; and Dick and Carey, developed models (Seels & Glasgow, 1996, p.1). While there are numerous individual ISD models, it is possible to extract a single generic model from their common features. No matter what the individual configuration, all ISD models include the processes of analysis, design, development, implementation, and evaluation (Seels & Glasgow, 1996, p.4-9).

Analysis is the process of defining what is to be learned. There are three types of analyses: need analysis, task analysis, and instructional analysis. Need analysis is a method of determining whether the instruction is needed and how much it is needed. Task analysis starts after the problem and its solution have been defined. It covers defining the job or topic to be learned using the standardized techniques of task analysis. To conduct instructional analysis, the designer examines each task or content area to determine what the student has to know in order to perform this task or learn this content.

Information from the analysis phase forms the bases for the design phase. The design phase involves a search for the answers to these questions: What are the learning objectives? How will we know if they are met? What teaching strategies will best achieve the objectives? What combination of media and methods will be the most cost-effective?

In the development phase, the materials are authored, reviewed, produced, and validated. The activities carried out during development will depend on the instructional media to be produced. The question during production is: How will the materials look and sound? The physical features of the material are produced during this phase, and it is the designer's job to ensure that the principles of learning are incorporated into the materials as specified during the design phase. To fulfil the media requirement, the instructional designer may work closely with writers, film or video producers, director, actors and editors, artists and photographers, and computer programmers. Material development also involves a process of formative evaluation whereby the materials are tried out. Formative evaluation is used to identify weaknesses in the materials while they are being "formed" in order to correct these weaknesses. It answers: Do the materials teach? How do we improve them?

Implementation is the process of putting the instructional plan in a real teaching setting. The success of a course depends on whether it is implemented as intended. To ensure this, it is necessary to develop guidelines for administrators and teachers, to prepare them to carry out their instructional tasks, and to monitor course administration during the start-up phase. The question for the implementation phase is: Is the instructor ready to take responsibility for the course?

The evaluation phase aims at searching for the answers to questions: Have we solved the problem? What is the impact? What needs to change? This is regarded as summative evaluation and is intended to help the responsible institution assess the impact of new materials in a broader sense.

The essential objective of education is to change the learning behavior of students. The ISD model is designed for this. Thus, in teaching library and information science at a distance, the ISD model should be given careful consideration in the effort to develop a WBI to meet student's interaction needs. Repeated application of the principles of the ISD model should lead to optimization of the student interactions in a way that is satisfying to the students and faculty and does not diminish, and hopefully enhances, the learning outcomes. Furthermore, continued refinement and testing will bring valuable feedback from students themselves about what forms of interactions they find most effective.

6. Library and Information Science Distance Education

The history of distance education in library and information science education can be traced back to one year after Melvil Dewey opened the first formal program of library education at Columbia College. Correspondence study was one of the first types of distance education employed in this field. In 1888, Dewey urged Albany to develop correspondence courses in special library and small library services. The American Library Association Committee on Library Training recommended in 1903 that school and/or 'leading libraries' be authorized to offer correspondence work (Barron, 1990, p. 325).

Barron (1990), noted that Charles Williamson was the one who became enchanted with correspondence education in library science. In his famous reports of 1921 and 1923 submitted to the Carnegie Corporation, Williamson recommended that library schools adopt the correspondence method of instruction. Later, Williamson recommended that the Carnegie Corporation fund the development of a school in New York City that would be expected to develop correspondence study on a large scale and of high quality (p.326).

In 1923, the American Correspondence School of Librarianship was established under the direction of H.P. Gaylord at Syracuse. Later in 1928, it was transferred, with all its assets, goodwill and students to Columbia University (renamed from Columbia College). It was administered jointly by the School of Library Service and the Home Study Department, under the direction of Williamson, then director of the School and Libraries. The program was very popular with practising librarians and flourished until 1936 when Columbia abolished all correspondence study (Barron, 1990, p. 326). From the days of these initial efforts, library and

information science educators have provided correspondence courses, sent faculty with courses and complete degree programs to satellite campuses within their states, and delivered degree programs to other states. Recently, telecommunications technology has been used to bridge the distance between students and schools.

Barron's survey (1993) indicates that all faculty who teach in ALA accredited program schools agree that distance education has the potential of being an important addition to traditional classroom delivery of instruction. The data also support the findings of a related study of curriculum committee chairpersons conducted in 1985. This study concluded that most faculty view distance education positively but are greatly concerned about the quality of the experience. Particular concerns include the lack of money to purchase hardware and courseware, the lack of available courseware, inadequate resources for distance students, the lack of faculty expertise with instructional media and technology, and the lack of rewards and incentives to encourage faculty to try new technologies and methods (p.195-197).

7. Library and Information Science Distance Education in Thailand

7.1 Library Education in Thailand

Library education in Thailand was first introduced at Chulalongkorn University in 1951 under the support of the Fulbright Foundation. At the beginning, it was just a training program, conducted by five American professors who offered a certificate in library science. In 1955, the Department of Library Science was established at the Faculty of Arts, Chulalongkorn University to offer a program for a diploma in library science (Atthakorn & Nandhivajrin, 1988).

At present, there are more than ten universities both private and public that offer programs in library science at a bachelor degree level and a master degree level. The universities that offer programs at a bachelor degree level include: Chulalongkorn Univeristy, Thammasat University, Chiang Mai University, Khon Khaen University, Prince Songkla University, Ramkamheang University, Silapakorn University, Mahasarakam University, Srinakarintharawirot-Songkla University, Sukhothai Thammathirat Open University, Burapa University, Rangsit University, The University of the Thai Chamber of Commerce, and Suranaree University of Technology. The universities that offers master degree are comprised of Chulalongkorn Univeristy, Thammasat University, Srinakharintharawirot-Prasarnmitr University, Ramkamheang University, Mahasarakam University, Chiang Mai University, Khon Khean University, Prince Songkla University, and Burapa University (Chutima, 1994, p.126-130). However, it appears that library education in Thailand is moving towards offering only the master's degree and the curriculum has been revised to include information studies (Premsmit, 1997, p.93).

7.2 Distance Learning Programs in Library and Information Science in Thailand

7.2.1 Sukhothai Thammathirat Open University (STOU)

Sukhothai Thammathirat Open University (STOU) founded in 1978, is the first university in Thailand to offer library and information science education via a distance education system. The program was set up by the School of Liberal Arts to offer the bachelor's degree and the certificate in 1989 and 1991 respectively. At the bachelor's degree level, there are two programs: General Information Science Program, and Office Information Science Program. The students of both programs have to take at least 22 courses (132 credits). Those courses include five General Foundation Courses, four Core Courses, eleven Area-Specific Courses, and two Free-Elective Courses (http://www.stou.ac.th/index.htm).

The objectives of information science programs are: 1) to enable students to store, retrieve, and handle information efficiently; 2) to disseminate knowledge on information storage,

retrieval, and handling to information specialists and other interested persons; and 3) to promote studies and research in the field of information science (Sacchanand, 1996, p.193).

STOU has developed and integrated various instructional media into a distance teaching/learning system to help students study independently without having to enter a conventional classroom. The instructional media comprises *main media* (textbooks and workbooks which are mailed to students) and *supporting media* (audio-cassettes, radio and television programs in conjunction with printed course materials and other audio-visual aids).

Students also have the option of attending tutorials. The aim of the tutorials is to provide a face-to-face interaction between students and instructors. Tutorials run for three or five hours and are held on three weekends in each semester at local centers throughout the country.

Guidance and counselling are provided by STOU to help its students cope with their studies, particularly the problems involved in participating in distance education courses. This counselling is important for students new to this mode of study. It is provided by the university at local centers on orientation day, and also in subsequent tutorial sessions and at examination times.

Practical work is provided for students enrolling in the courses from the Schools of Public Health, Communication Arts, and Agricultural Extensions and Co-operatives. These sessions cover hands-on skills and job training. The Ministries of Public Health and Agriculture co-operate in the provision of facilities for their respective schools.

In case of the information science program, prior to graduation, students have to participate in the practical experience programs organized by the School of Liberal Arts . The objectives of this program are as follows: 1) to enable students to realize the importance of their professions; 2) to enable students to apply the principles and theories acquired through their studies to actual practice; 3) to provide students with additional experience they may be unable to get effectively through the distance education media; and 4) to provide students the opportunity of exchanging professional experiences.

These professional experience programs are practical activities, and students must take up residence at the University for four nights and five days. The participatory activities include: inviting resource persons to give speeches and answer questions to students related to the latest interesting issues in the field; discussing among the students, the issues about ethics for librarianship; and observing work procedures in The Office of Documentation Services and in the Office of Computer Services (Sacchanand, 1996, p.196).

Self-help groups are one type of activity organised by groups of students. These groups are generally set up as a student club and are located in their province or region. The purpose of these groups is to arrange extra support for the local students. This may involve running a tutorial using a local expert or someone from the university (Boondao, 1992, p.6).

To ensure that educational services reach students throughout the country, STOU provides "STOU Corner" which are library and education media service centers located in 75 provincial public libraries. These facilities have been arranged in co-operation with the Ministry of Education's Non-Formal Education Department. The corner acts as a repository and service center for different types of education media acquired and prepared by the Office of Documentation and Information, STOU. The purpose is to provide services which will be of benefit to students and the general public in local areas. Materials provided include teaching materials and exercises prepared by the University for use with different subjects, textbooks, reference books. The latter include books covering specific subjects of benefit to people residing in local areas, audio cassettes containing course materials as well as radio programs providing tutorials and educational counselling (Ruksasuk, 1992, p.85).

7.2.2 Ramkamhaeng University (RU)

Ramkamhaeng University (RU) was established in 1971 as an open university. It was designed as an "academic market"; i.e., admissions were not limited by qualifying exams, class attendance was not mandatory, and fees were kept low. The main instructional materials used for learning and teaching include textbooks, handbooks, and instructional sheets printed by the university press. The primary teaching method in use is the lecture method in either a regular classroom or a large lecture hall with closed-circuit television. Laboratory services and equipment are practical additional training facilities (Phornsuwan, 1997, p.125-131).

RU started distance learning system in 1995. Video-conference is used through THAI-COM satellite as an educational media. Video-tape cassettes, radio, and television are also employed. At present, the University offers programs for a bachelor degree level through the distance education system for students studying in six provinces namely: Uthaithani, Pare, Prachinburi, Annajchareon, NakornSrithammaraj, and NakornPanom. At the master degree level, it is offered to students studying is four provinces namely: Uthaithani, Prachinburi, Annajchareon, and NakornSrithammaraj (http://ram1.ru.ac.th/web/ru_it/it2.htm).

The Department of Library Science was set up after RU was founded. It has been attached to the Faculty of Arts and Social Sciences. The objectives of the Department are to: render the librarianship program for the management and practical work in the library; produce qualified librarians who can work in the library and information center effectively; and provide the library professional ethics.

At present, the Department offers library education programs at a bachelor degree level and a master degree level. Total required credits for both degrees for graduation are 144 and 48 credits respectively. Teaching in the Department involves classroom lectures and library practicum while radio and television programs are provided for distant students in the provinces (Phornsuwan, 1997, p.125-131).

7.2.3 Suraneree University of Technology (SUT)

Suranaree University of Technology (SUT), established in 1990, is the first state university with full autonomy with regard to governance. It is a government-supervised state university and has its own systems of financial, personnel, academic, and general administration customized to its characteristics and missions to ensure high operational efficiency as well as fulfilling international standards in its educational programs.

SUT uses the credit-hour system in designing its curricular program courses and the trimester system in its curricular program implementation. Thus, each school year consists of three terms each of 13 weeks in duration. All curricula conform to the standards set by the Ministry of University Affairs. The undergraduate curricula require 175 trimester-credit hours for completion. At present, the University offers bachelor degrees in three areas: Information Science, Agricultural Technology, and Engineering (8th Anniversary SUT Report).

The University employs two methods, with equal sharing of the total number of seats, for admission of first year students. The first method administered by the university, quota allocation, was originally for the northeastern region of the country only. The second method, administered by the Ministry of University Affairs, is the entrance examination procedure and is for qualified individuals nationwide. The quota allocation method does not require any examination and may be divided further into two categories, namely the school quota, applicable only to the lower part of the Northeast (Nakhon Ratchasima, Chaiyaphoom, Buriram, and Surin); and the province quota, applicable to remaining northeastern provinces. SUT completes the selection of quota students before the examination takes place. Thus, if the total number of quota selections is less than the prescribed total, SUT increases the examination admissions to compensate.

Library and Information Science program at SUT was provided in 1998 by School of

Information Technology, Institute of Social Technology. The objectives of the program are: 1) to educate and train the students to be competent in the field of information technology with both theory and practice, 2) to enable students to register as highly qualified and professional technologists; and 3) to train students to have skill and knowledge in technoware, skills in the technolgy concerned; humanware, general skills as human being in a modern society; infoware, skills in efficient of technology for information compilation and dissemination; and orgaware, skills in the setting up of suitable mechanism and systems for sustainable development. The teaching method employed is a traditional face-to-face classroom.

In the age of globalization, the aim of education is to manage life-long learning for all without limitations of time or space. SUT has developed the Borderless Education system by using information technology in the form of multimedia, combining distance interactive, computer assisted instruction, printed, and other electronic media, so that the learner may gain broad knowledge, and thus, participate in a virtual university. The system is being implemented by creating various courses in this format. Courses on Library and Information Science are also included in the plan.

8. Conclusion

Distance learning employs contemporary technological developments to deliver information to students using new modalities. In the last decade "distance" has expanded to include temporal as well as physical isolation. Today's distance learner may be an urban dweller with easy physical access to a college or university. The changing social fabric, with its increasing demand on individuals at work and decreasing support for individuals from the extended family, has made time a highly valued commodity in the society. Technology which allows individuals to shift activities or interactions to more convenient times such as VCRs, answering machines, and Email have become indispensable parts of people's life.

The distance education movement in the field of library and information science in many parts of the world including Thailand appears to have progressed slowly. During the past three decades, there appears to have been little research relating to the field of library and information science. Nonetheless, interest in distance education has increased recently. Many library and information science educators, as well as related professional associations, have addressed the topic of delivery of library and information science education to distant students through the use of telecommunications technologies.

As we move away from a broadcast mode of teaching and more toward on active interaction mode, it is a mistake to conclude that simply the installation of distance education classrooms is the prime ingredient for success in offering distance instruction. The transition is much more complex. In the next decade, distance learning classrooms require careful planning both in their technical capabilities and in their physical organization. Appropriate delivery vehicles need to be selected to match the levels of interaction expected. Teaching in such an environment requires a host of new instructional support personnel and technologies, as well as new approaches to teaching strategies (Besser, 1996, p.820). In distance instruction, the demands on the learner are greater. Rather than being a passive recipient, the student must transform himself or herself into an autonomous learner. At the same time, course content and design need to be mindful of the learning process.

The essential objective of education is to change the learning behavior of students. This can be accomplished by using the ISD model. Thus, the ISD model should be given careful consideration in effort to select and develop delivery systems of teaching library and information science at a distance.

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