

## THE INTEGRATION OF INFORMATION LITERACY INTO WEB-BASED TUTORIAL WITH LIBRARIAN – FACULTY PARTNERSHIP

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**Abstract:** Information literacy is a key component of lifelong learning in higher education. It has the potential to improve the quality of student learning and provide student to be continual learners after they graduate. This study reports on a collaborative effort between academic librarians and faculty to enrich the students' information literacy.

**Purpose:** The authors have studied the integration of information literacy into the curriculum that librarians and faculty incorporate to support students' information literacy skills through the web-based instruction. The objectives of this report are to study ways of integrating information literacy into the curriculum and the collaborative activities in the information literacy tutorial, and to design a model of a web-based collaborative tutorial on information literacy

**Methods:** This study was mainly based on a qualitative research methodology. Data was gathered from individual interviews of academic librarians and faculty members as well as a focus group discussion that included both academic librarians and faculty members.

**Results:** A model for a web-based collaborative tutorial between academic librarians and faculty members to teach information literacy for students' research assignments. The tutorial consists with the information literacy instruction and the learning support tools which provide the librarian-faculty partnership.

**Conclusion:** The integration of information literacy into the curriculum is important to support the student-centered learning approach. The collaboration between academic librarians and faculty in teaching is a powerful method of encouraging students to develop their skills. This can be viewed as an alternative study of collaborative teaching that integrates information literacy into the curriculum.

### Introduction

A modern society needs a modern higher education system with emphasis on knowledge management, information technology and lifelong learning (Pinto & Doucet, 2007). The National Education Act of 1999 (B.E. 2542) of Thailand introduced the student-centered approach into all education levels (Office of the National Education Commission, 2008). Student-centered learning requires students to be active, responsible participants in their own learning and in lifelong learning with information literacy skills (Brandes & Ginnis, 1986). This view is endorsed by UNESCO (1996) and World Declaration on Higher Education (1998) statements that propose a new student-based educational model in which the student must acquire a critical spirit to analyze problems, know how to adopt solutions, and assume social responsibilities. Information literacy is a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information"

(American Library Association, 2000). It is no longer just a library issue in order to support student-centered learning that focuses on students' needs, abilities, interests, and learning styles with the teacher as a facilitator and resource person. Moreover, the faculty wants to see an improvement in the quality of student work, and students want to become more confident in their ability to complete assignments, carry out research projects, and become active, independent learners (Rockman, 2004).

Following the National Education Act, the higher education system in Thailand recognizes the importance of information literacy. Most universities have either compulsory or selective information literacy programs that are offered as a stand-alone course in the undergraduate program. Information literacy is taught in various courses such as: Information Technology and Library; Information and Library Instruction; Information Literacy Skills; Thai Language for Communication and Searching; Information Technology for Life; Information Technology for Learning; Library and Researching; Library Use and Information Literacy; and Academic Writing and Research. These courses are mostly conducted by faculty from Library and Information Science Departments. Academic librarians may be involved in the information literacy courses by teaching the whole course or some part of the course. Some academic courses using problem-based or inquiry-based learning approaches need library instruction as part of the course. This can be arranged through cooperation with academic librarians.

Most Thai students have a moderate level of information literacy. Evidence appears in many academic research studies in Thailand that have evaluated the information literacy skills of undergraduate and postgraduate students (Hutthaphong, 2005; Nimitprajak, 2004; Yingsukwattana, 2004; Jaisa-Ard, 2004; Jiaogok, 2004; Chaivichitkul 2003; Oujit, 2003; Sramoon, 2003; Bumrungjit, 1999; Buthaisong, 1999). These studies also show that students had problems using information to do homework, write academic papers and prepare research proposals. All information literacy skills offered in the universities are stand-alone courses. Therefore, students learn concepts and content without practice or hands-on experience. If teaching instruction is separated from meaningful tasks, it does not lend itself to effective internalization. Authentic learning occurs more naturally within the context of classroom practice. Meanwhile, two academic studies indicate that the integration of information literacy into the curriculum increases students' skills (Supakavanich, 2004; Liampatcharat, 2005).

These research findings recognize the need to integrate information literacy skills into other curricular activities and instruction. In addition, emphasis on lifelong learning and associated graduate capabilities will lead to opportunities for new partnerships between faculty and librarians (Bruce, 2001). Library professionals strongly agree that suitable campaigns should be adopted for information literacy programs to be integrated into university mission statements, become part of the overall university curriculum, and be established as an integral part of the library science curriculum (Pawinun, 2006). Breivik and Gee (1989) initiated partnership between academic administrators, classroom faculty and librarians that enhanced instruction, research, and service while supporting the transformation of higher education. Likewise, approximately 10 percent of the research articles in 2003 addressed the need for collaboration between librarians and faculty in information literacy promotion (Johnson & Fent, 2004). To accomplish this task, academic librarians and faculty need to collaborate to craft learning experiences that incorporate information literacy concepts.

### **Librarian-Faculty Partnership**

A pedagogical partnership between librarians and faculty is essential for the success of meeting specific information literacy goals. Building a successful information literacy infrastructure begins by creating a foundation of strong faculty – librarian relationships in conjunction with faculty development programs (Black, 2001). Furthermore, librarians need to help faculty understand the concept of information literacy and the importance of integrating it into their courses. Faculty members have governance over the curriculum, influence on students, and mastery of their discipline. Librarians have exceptional information research skills, knowledge of student searching behavior, and a commitment to the importance of

information literacy in the lives of students (Rockman, 2004). Faculty and librarians collaborate to create information literacy instruction for general education and research courses (Black, 2004). Heidi (2000) identifies the locating of information resources as the most highly needed content in courses. Additional content in search strategies, library resources, critical thinking, evaluating information, databases, and innovation of technology are also required. In Thailand, most faculty members need librarians to help students to access information sources (Tuamsuk, et al, 2005).

### **Information literacy in E-Learning**

In accordance with the rise in Internet technology, web-based instruction (WBI) has become an appropriate application to support the delivery of learning, skills and knowledge in a holistic approach, which is not limited to any particular course, technology, or infrastructure (Henry, 2001). There are many learning management systems that arrange for only one instructor to manage one course. Likewise, library web-based instruction is only managed by librarians. Eventually, web-based technology can be a useful tool supporting collaborative learning that may enhance teaching and learning performance, such as individual knowledge construction or group knowledge sharing. WBI technology provides a vehicle for collaboration between librarians and faculty to integrate information literacy, value learning activities, and enrich students' individual learning experiences by motivating them to seek new insights and perspectives. In Thailand, an information literacy instruction/tutorial website has appeared recently such as, Khon Kaen University E-Learning website (<http://e-learning.kku.ac.th/course/category.php?id=196>) and the Information Retrieval Self-Training Package by Thai Library Association (T.L.A.) (<http://www.tla.or.th/IFLA/main1.htm>). In this paper, the authors are interested in studying the integration of information literacy into web-based instruction with collaboration between faculty and librarians to promote information literacy skills in the electronic learning environment.

### **Objectives of the Study**

The purpose of this paper is to propose a model of a web-based collaborative tutorial to teach information literacy for students' research assignments. The objectives of this study are:

1. To study ways of integrating information literacy into the curriculum
2. To study collaborative activities in the information literacy tutorial
3. To design a model of a web-based collaborative tutorial on information literacy

### **Methodology**

The platform for developing a web-based collaborative tutorial to teach information literacy for research assignments is based on a study of collaboration between academic librarians and faculty. This study was based mainly on a qualitative research methodology. Data was gathered from individual interviews of librarians and faculty members, as well as a focus group discussion that included both librarians and faculty members. First, the questionnaires were sent to 44 academic libraries in the Bangkok area to find out which librarians were involved with information literacy teaching or training (Table 1). This was followed by individual interviews with 7 academic librarians who partnered in classroom teaching to gather data and identify the faculty members with whom they partnered. Furthermore, individual interviews were conducted with 7 faculty members who partnered in classroom teaching. The interviews of both groups were concerned with teaching content, methods, and other opinions.

**Table 1.** Are you involved in information literacy (IL) teaching or training? If so, in what capacity?

IL teaching / training	Amount (N=44)
• Library orientation /Training	41 (93.18%)
• Teaching as a partner to faculty	14 (45.16%)
• Teaching a whole course	9 (20.45%)
• Not involved	2 (6.45%)
• Others (Websites, CD-ROM, brochure)	2 (6.45%)

Finally, a focus group discussion between faculty and academic librarians was arranged to determine their needs and identify how they could collaborate more appropriately for promoting students' information literacy skills. The faculty wanted to see an improvement in the quality of student work and increase the effectiveness of student research. The librarians wanted more time to teach information literacy content in the classroom. This discussion identified a number of skills that students need to achieve in order to do better quality research, as listed below:

- To learn how to brainstorm and identify keywords for topics, including synonyms or related terms
- To be adept at using library web pages to locate appropriate databases
- To know how to employ Boolean search strategies, truncation, keyword and subject headings
- To determine which information resource is credible or scholarly
- To know how to properly cite references in a research paper

Furthermore, the results were used to design a framework for a web-based collaborative tutorial and instruction. Effective instructions are always engaged in assessment, evaluation, and revision (Grassian & Kaplowitz, 2001). This tutorial will be assessed by the information literacy test and the research paper evaluation form. The test and form will evaluate the outcome of the students' studies and also the efficiency of the tutorial.

### **Web-based Information Literacy Tutorial**

The research assignment, an integral part of the course, helps students become proficient with this performance indicator as demonstrated by the outcome of a major project, paper, or presentation (Neely, 2006). Research is a systematic process of collecting, analyzing and interpreting information or data in order to increase our understanding of the phenomenon about which we are interested or concerned (Leedy, 2005). Librarians and faculty need to collaborate in supporting students to complete assignments with less difficulty and more satisfaction, and to apply their knowledge to new situations. The data from individual interviews and the focus group discussion has been analyzed in order to design a web-based information literacy tutorial. This tutorial has been integrated into the course using an inquiry-based model and problem-based model. The tutorial is related to the process of research assignment to assist students to proceed with the research paper. There are two parts to the information literacy tutorial: instruction and learning support tools.

The information literacy instruction is in the librarians' realm. It is based on the results of focus group and followed the Information Competency Standards for Higher Education. The standards developed by the Association of College and Research Libraries (ACRL) notes that information literacy forms the basis for lifelong learning. It enables students to master content, become self-directed learners, and assume greater control over their own learning. An individual who is information literate is able to: Determine the extent of information needed

- Determine the extent of information needed

- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into his or her knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information
- Access and use information ethically and legally (American Library Association, 2000)

The content of information literacy instruction includes:

*Unit I: Identify research topic*

- Brainstorming/mind mapping
- Research questions
- Information sources

*Unit II: Accessing needed information*

- Formulating the search terms
- Searching strategies

*Unit III: Evaluating information sources*

- Evaluating printed and Internet sources
- Selecting information relevant to the identified topics

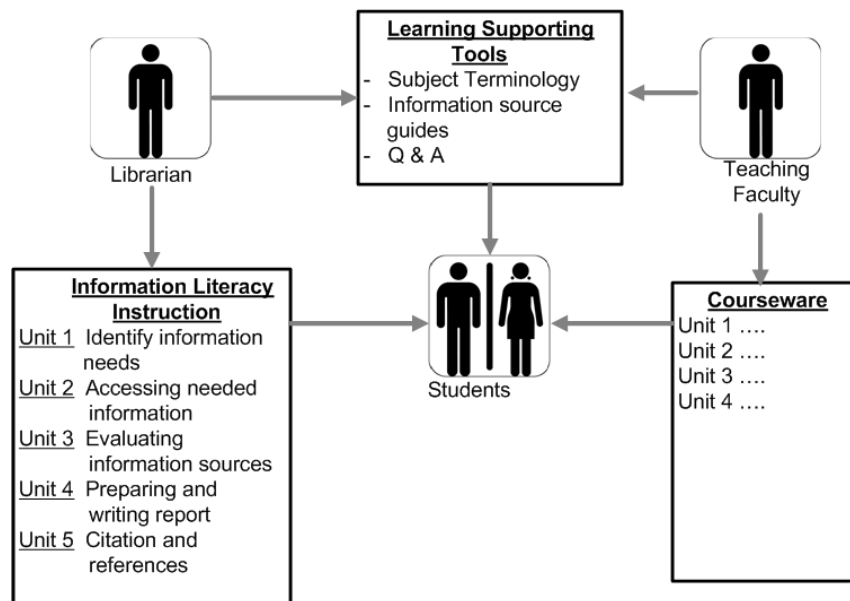
*Unit IV: Preparing and writing report*

- Preparing outline of report
- Synthesizing and organizing information
- Writing a research or term paper

*Unit V: Citation and references*

- Information copyright and ethics
- Citation and bibliographies

**Figure 1.** Web-Based Information Literacy Tutorial Model



The learning supporting tools are based on the collaboration between librarians and faculty. They consist of subject terminology, information sources, plus questions & answers (Q&A). The subject terminology helps students understand the course and formulate search terms. The teaching faculty provides subject terminology as a glossary. Librarians provide subject terminology as subject headings that include specific words, terms or phrases used for searching the library catalog (OPAC).

Information sources are guides to locate required information. Librarians suggest the library's databases, online subscription databases, credible sources on specific subjects and general reference sources through the library's website. Teaching faculty may also suggest other sources with which they are familiar.

The Q&A section is a referral service for mentoring students while doing research. Librarians help students identify suitable databases and library materials, and search the OPAC for needed information. Likewise, the teaching faculty provides subject and research consultation to students through the Q&A section. Chat rooms and the electronic form are the channels of Q & A in the synchronous and asynchronous learning environment.

## **Experiment Plan**

The experiment of the tutorial will take place during Semester II (November 2008 – March 2009) of the 2008 academic year. Information literacy instruction will be integrated into the Office Automation course that provides the online tutorial. The samples of this study will be selected from 52 second-year students, majoring in Library Science and Language for Career at Srinakharinwirot University. The sample will be divided into two groups of 26 students. The experimental group will do the research assignment with support from the web-based information literacy tutorial. The control group will do the research assignment without using the tutorial. The information literacy test and the research paper evaluation form will be used for evaluating the result of the students' work, which will be further used to evaluate the efficiency of the tutorial.

## **Conclusion**

Information literacy is a key component of lifelong learning in higher education to improve the quality of student learning, and to empower students to be perpetual learners after they graduate. It also has been an important factor in the development of librarian-faculty partnerships. As partners in the classroom, academic librarians attempt to integrate information literacy into the teaching and learning process. Librarians can play a role in teaching information literacy in higher education institutions in which student-centered approach through web-based instruction has been increasingly emphasized.

The web-based collaborative tutorial integrates information literacy into the curriculum in order to support students' research assignments. The design of the study is based on the qualitative research methodology through individual interviews and a focus group consisting of academic librarians and faculty. The students' information literacy skills test and the research paper evaluation form will be applied to evaluate the tutorial. This study can be viewed as an alternative study of web-based collaborative teaching that integrates information literacy into the curriculum. In the future, collaborative teaching technology will continue to enrich individual knowledge construction and group knowledge sharing by helping to connect peers.

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## **Appendix**

### **Report Evaluation Form**

Student's Name..... Student ID.....

Report Title: .....

Score: 4 = Very Good, 3 = Good, 2 = Fair, 1 = Unsatisfied

Evaluation List	Score			
	4	3	2	1
<p><b>1. Report Format</b></p> <p>1.1 Elements of report, such as, front cover, title page, preface, and table of contents, were correct and completed.</p> <p>1.2 Had reference (in the forms of footnotes/endnotes inserted in the contents)</p> <p>1.3 Had more than 5 Bibliographical categories, and related to citation.</p> <p>1.4 Used correct and content-related bibliography format.</p> <p>1.5 Used correct SWU bibliography format.</p> <p>1.6 Written and printed in clear and tidy manners, with an appropriate space assigned between phrases or sentences.</p> <p>1.7 Clear and proper illustrations and/or tables.</p> <p>1.8 Beautifully and deliberately bounded with the right cover format.</p>				
<p><b>2. Report content</b></p> <p>2.1 The title was assigned agreeable to report content.</p> <p>2.2 The content was interesting, useful and relevant to the course.</p> <p>2.3 The content was unified.</p> <p>2.4 The structure of the content presented details in full and was interesting.</p> <p>2.5 Content arrangement was relevant, relative and consecutive.</p> <p>2.6 The content was up-to-date.</p> <p>2.7 Research methods and collecting of data were appropriate with the report content.</p> <p>2.8 Had data synthesizing.</p> <p>2.9 Data used for reference was accurate and creditable.</p> <p>2.10 Had conclusion with point of view of the reporter.</p>				
<p><b>3. Others</b></p> <p>3.1 Submitted the report on assigned dates.</p> <p>3.2 Counseled with the teaching faculty and librarians.</p>				
Amount				

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