

Library User Education as a Window to Understand Inquiry-Based Learning in the Context of Higher Education in Asia: A Comparative Study between Peking University and the University of Tsukuba

Qianxiu Liu, Bradley Allard, Patrick Lo, Qingshan Zhou, Tianji Jiang, and Hiroshi Itsumura

This study is based on the belief that inquiry-based learning should be made an integral part of any student's learning, especially at university level. To find out the students' perceptions toward library user education, 426 questionnaire surveys have been collected from the Peking University (PKU), China and the University of Tsukuba (UT), Japan. The results of this study indicate that, compared with UT, PKU students on the whole expressed higher ratings in many areas toward the user education programs provided by their respective library, and they also had a more positive view about the professional competence of the user education (reference services) librarians. The researchers believed that the different perceptions found between the PKU and UT groups were a direct result of the distinctive learning practices and curricular requirements exercised between the two universities. There are not many articles that explore the relationship between inquiry-based learning and the library user education in Asia.

The findings of this study are useful for identifying the different learning modes between these two groups of students, as well as other barriers that were preventing the library user education programs to be integrated into inquiry-based learning, and the university's core curriculum as a whole.

Introduction

The convenience brought by the internet has revolutionized students' and teachers' ways of studying, teaching, and information collecting. In addition, new services such as digital librar-

Qianxiu Liu is at University of Tsukuba, email: s1730536@s.tsukuba.ac.jp; Bradley Allard is at University of Kentucky, email: brad.allard1@gmail.com; Patrick Lo is in the Faculty of Library, Information, and Media Science at University of Tsukuba, email: wotan455@gmail.com; Qingshan Zhou is in the Department of Information Management at Peking University, email: zqs@pku.edu.cn; Tianji Jiang is in the Department of Information Management at Peking University, email: daily.jiang@pku.edu.cn; Hiroshi Itsumura is at University of Tsukuba, email: hits@slis.tsukuba.ac.jp. ©2019 Qianxiu Liu, Bradley Allard, Patrick Lo, Qingshan Zhou, Tianji Jiang, and Hiroshi Itsumura.

ies and institutional repositories have changed the ways in which information is acquired, stored, accessed, and disseminated. All these new changes brought about through new digital technologies have created new and unprecedented pressures for libraries for the reason that librarians are seriously concerned about the underutilization of library services and resources, especially in the academic environment. Hence, there is a great need for new methods and tools for evaluating the importance and values of academic libraries from different perspectives.

Measuring the attitudes and perceptions toward the university library and its user education programs is considered an effective way to develop new approaches, and doing so can allow librarians to continue improving upon existing library services. According to Ogunmodede & Emeahara, the essence of library user education is to equip library users with enough knowledge and skills to use library resources effectively, efficiently, and independently.¹ They also observed that, in the current digital environment, resources in the library are so complex that an average library user cannot effectively use them without the assistance or guidance of the library user education librarians.

Library User Education (LUE) is expected to have various positive effects on students' learning outcomes, research practices, and self-motivation for independent learning. In a broad sense, it is teaching users to make effective use of library systems. Furthermore, LUE is developed to inform and influence users' opinions and attitudes about library usage issues and, more important, to inspire their quest for knowledge, which is essential for the advancement of individuals and societies.² LUE programs normally encompass a number of aspects of library services, such as library tours, use of OPACs, and information literacy (IL) instructions via using inquiry-based instruction methods. With research skills gained from an inquiry-based learning environment, students are better able to use library materials and databases in their research and assignments, as well as other academic endeavors. Thus, there is an increase in the recognition of the importance of clarifying users' perceptions and attitudes toward LUE services in the context of higher education.

In 2016, a pilot study was carried out at Fudan University (FDU) and National Taiwan Normal University (NTNU) to survey students' perceptions and attitudes toward the importance of LUE.³ The findings of this pilot study indicated that the students at both FDU and NTNU considered workshops catered for e-resources to be most important of all LUE programs provided by their respective university libraries. However, there are some limitations for that study. First, this study was based solely on quantitative questionnaire data. Second, the total populations surveyed were very small. Furthermore, the questionnaires in the previous study were distributed to the students' onsite by the researchers at both university libraries; hence, results were collected from respondents who were already library users. In this current study, the authors would like to extend the scope of this research to similar universities in Asia, namely the University of Tsukuba (UT) and Peking University (PKU). In this research, the sample size was much larger than the last study.

Similar to researchers' previous study, the current study was set out with the same belief that inquiry-based learning should be made an integral part of any student's learning, especially at university level; that is, "one simply has to be a skillful, and effective user of the library, in order to become a true independent learner."⁴ In other words, inquiry-based learning and active/competent library use simply go hand in hand. In fact, scholars believe that inquiry-based learning is a powerful learner-centered pedagogy used widely in all levels of education. The ability to synthesize information and create new knowledge are competencies

that lie at the heart of inquiry-based learning, where students ideally are given the space to generate genuinely new knowledge through the process of research.⁵ Alongside the ongoing shifts from traditional delivery learning and teaching modes to more student-centered approaches, information literacy (IL) is moving up some institutional agendas as a focus for strategic and pedagogical development.⁶ The researchers believe that inquiry-based learning and library simply go hand-in-hand in the development of LUE programs.

Background of the Study

PKU and UT are both leading national, comprehensive universities in Asia. PKU is a key research university located in China's capital city, Beijing. Being the first modern national university established in China, PKU is consistently ranked as the top institution of higher education in its motherland, and seventeenth in the world.⁷ PKU currently consists of 30 colleges and 12 departments, with 93 specialties. According to PKU's Office of International Relations, as of 2016 PKU has a student body made up of 30,248 undergraduate and postgraduate students, together with a population of 4,206 academic staff.

With reference to UT, it is one of the oldest national research universities located in the city of Tsukuba (known as Tsukuba Science City), in the Ibaraki Prefecture of Japan. UT currently has 28 colleges and schools, with around 16,500 students (as of 2014). UT is also known for its series of internationalization efforts and has won Japanese government funding projects for internationalization of Japanese universities, including being named as a part of the "Global 30" Project, a government program aimed at increasing globalization among the country's universities. The academic strength of UT is in STEMM fields (Science, Technology, Engineering, Mathematics, Medicine), Physical Education, and Library and Information Science. In fact, UT is considered one of the top universities in Japan, and it is currently ranked seventh among Japanese universities, and 401–500 in the world.⁸

One point of connection between these two universities is the similarities between their students' cultural backgrounds in terms of learning styles. In the literature, there has been an extensive discussion on stereotypes and characteristics of what is known as Confucian Heritage Culture (CHC) backgrounds. Asian countries, particularly China and Japan, are well known for their Confucian learning style and strict, extremely exam-oriented education system, which places a great emphasis on rote-memorization learning.⁹ This sociocultural background places emphasis on societal harmony through unequal relationships between people, such as father-son or student-teacher. In the context of relationships between student and teacher, the teacher's role is to be active in one's teaching, while students passively learn.¹⁰ As a result of such an education system, many students from this cultural background are seen as being passive and more suited for a teacher-centered environment, as opposed to a more user-directed one.¹¹ While this educational system is mostly seen in the primary and secondary contexts, scholars and educators also believe that such a passive style of learning continues throughout most Japanese and Chinese students' university education.¹²

At the same time, however, a number of scholars have argued against these assumptions about Asian students. Ryan & Louie, for example, noted that Western and Asian concepts of education should not be seen as homogenous and unchanging, as these kinds of evaluations do not take into account the diversity within each culture. Furthermore, terms such as "critical thinking" and "lifelong learning," which are often idealized in the Western context, are generally amorphous terms that are not necessarily unique to Western learning—that is, parallels

can be found such as the term “deep thinking” in Confucianism.¹³ Tran also expresses distrust in this myth. While CHC learners in this study expressed notions of passiveness within the classroom and sometimes did not ask questions in class due to a fear of not understanding, the respondents felt that their learning styles were not inherent in their cultures. Rather, as the author concluded, “[CHC learners] tend to be passive when teachers provide everything for them to learn and when tests are designed to recheck knowledge given by the teachers. This passiveness is shaped by the requirements of the course rather than by cultural factors.”¹⁴ Thus, such behaviors commonly associated with CHC learners may be a result of the context of the individual courses themselves, rather than solely from cultural background.

This contextual background can be seen through the respective universities’ course requirements and learning environments as well. Despite the stereotype of Asian students as passive learners, PKU has a more active, research-oriented environment. According to the researchers at PKU, for students majoring in Social Sciences, Humanities, and Arts at PKU, they are expected to write full-length (8,000- to 10,000-word) academic essays for each course as final assignments, even at undergraduate level. In most cases, many of these course assignments would require students (even at undergraduate level) to incorporate proper research skills. Furthermore, students at PKU are expected to take part actively in class discussions on a regular basis, and Western-style collaborative learning is also strongly emphasized in many academic disciplines. Under this high-level, Western-style, inquiry-based-learning environment, PKU students are expected to create questions of their own, obtaining supporting evidence (information) to answer questions to cope with the assignment requirements, and to meet teachers’ expectations. In this learning environment, PKU’s system (curriculum) can be seen as being more inquiry-based oriented.

This research environment is further supported by a relatively recent implementation of a subject librarianship system in 2006. This system was introduced as a way for PKU to transition into a world-class research university, thereby improving its world rankings, as well as training future generations of students to learn through a collaborative and inquiry-based-style curriculum.

Although still under the process of development, leaving much room for further refinement, the PKU Library currently has a total number of 27 subject librarians and 13 reference librarians working under the concept of library user education (LUE)—all set up with the aim to provide tailor-made teaching and research support services (at all levels) to most academic disciplines offered at PKU. In other words, almost every single faculty has their own subject librarian(s) to work closely with users to meet their highly specialized information needs. One of the core duties of the subject librarian working at PKU Library include the following tasks: (1) develop and organize the library resources; (2) provide subject-specific reference and information services; (3) conduct subject-oriented library instructions (including information literacy skills) to cater to the specific needs of students from different academic disciplines. Since students from different disciplines have varying learning styles and different information needs, they tend to use different library resources and have distinctive information-seeking behaviors.

For UT, although the term “inquiry-based learning” exists in many Japanese education encyclopedias, and many Japanese scholars could recite fluently about the definition of inquiry-based learning in the modern education context, on an implementation level, Japanese students and educators seem to have a very different understanding of how inquiry-based

learning should be carried out (or selectively carried out), as well as its expected learning outcomes. Under the Japanese university system, as course assignments, students are mostly expected to do summaries, short reports, or literature reviews based on lectures attended or assigned readings given by professors during class time—even at the master's level.

Furthermore, many such assignments, including graduate theses, place great emphasis on literature reviews and showing facts (such as looking for definitions and origins of terms/terminologies, and/or historical developments of concepts or policies, and the like). In other words, Japanese students, in most cases, are not expected to use their personal experiences to give examples to illustrate their points or even use other scholars' research findings to build their own scholarly discussions and arguments.

Previous studies have tried to examine some of the issues of critical thinking in higher education in Japan as well as the difficulties in implementing inquiry-based learning instruction methods. Many polemical studies have criticized Japanese universities as failing to meet their aims as universities. They have often been accused of producing the next generation of graduates who are intellectually not curious, as well as unmotivated toward learning as a whole.¹⁵ Despite these older studies' criticisms, universities in Japan have implemented more inquiry-based learning curricula—especially in the field of medicine. However, studies in this area have still expressed some of the issues that instructors have in their implementation.

A study of a problem-based learning program for medical students at Kobe University found that, despite trying to encourage more active learning, there were many students who relied too much on “super achievers” and preferred a more passive learning environment.¹⁶ The authors concluded that such passive learning educational systems are antithetical to clinical practice, and active learning must be introduced into the Japanese education system at the primary and secondary levels. Sugimura and Shimizu echoed this sentiment, noting the difficulties that many first-year Japanese students have when coming from a more passive learning system in secondary school and transitioning to higher education.¹⁷ Thus, even though Japanese curricula have attempted to develop more problem-based learning programs, there is still difficulty in practice, as students are still used to passive learning from previous education.

This also applies to the context of the library as well. With such a passive learning attitude, the university library is mostly seen as a place for quiet study in solitude, while the librarian is merely regarded as someone whose sole duty is to manage the circulation desk. Hendricks indicates that academic libraries in Japan are not expected to perform the same roles as their North American counterparts.¹⁸ In Japan, academic libraries lack proper reference services. The students do not even seek out reference librarians for fear of bothering them—doing so would cause one to potentially “lose face” and potentially make themselves look bad in public.¹⁹ For this reason, fewer students at UT see the real need to visit the physical library outside of quiet study or to consult an LUE librarian in person to find relevant research materials (in different languages, in large quantity, and in a variety of formats) from the library on their own when writing assignments.

In contrast to PKU, UT does not have a comparable subject specialist system. According to Donkai, it is hard to establish this kind of subject librarian system among academic libraries in Japan, despite the fact that many scholars have been stating their importance for years (only the Kanazawa Institute of Technology started a subject librarian system from 1982).²⁰ Furthermore, as Nagata et al. pointed out, in some countries, librarians in colleges

and universities are considered “professionals” and ranked among the “academic staff,” and are awarded with “faculty status.”²¹ Regardless, however high a librarian in Japan is ranked within the library organization, he or she remains a nonteaching administrative member of staff—meaning that they are only expected to carry out traditional librarian roles, including duties such as collection development, cataloging, and circulation. Their duties come with such traditional roles that might not be totally in line with the new ways of learning, and doing research among young people during the digital era, especially when an increasing emphasis is placed on collaborative project-based and inquiry-based learning.

Unlike a system where faculty bring students to a tailor-made library instruction session for specific assignments, UT’s Learning and Research Support program tends to be more broad in nature. This program has five different categories of content, including (1) Using the library; (2) Searching and obtaining information for academic papers; (3) Analyzing and managing information; (4) Conveying your own ideas; and (5) Broadening your knowledge. Furthermore, the UT Library usually only holds campuswide library orientations for graduate students at the beginning of each new semester. However, such orientation sessions are usually scheduled at the beginning of the new semester, and there is not always enough time to explain everything for new students.

Literature Review

Many studies have attempted to discover library users’ needs, requirements, and perceptions toward different parameters in academic library area from the late 1990s.²² A study of university students in the United States found a connection between IL and user satisfaction of the library.²³ Students with more advanced library skills found themselves more satisfied with the library and its services. A study of business students at Oakland University found that many student respondents had a more positive perception of the library and the convenience of its resources after having an instruction session in the library.²⁴ Hsu et al. conducted a questionnaire survey in a university located in the Midwest region of the United States.²⁵ They concluded that libraries can allocate their limited resources to be more relevant to current students’ needs, specifically in the areas of staff professionalization, customer services, modern equipment, and facilities, while strategically expending their on-campus and online holdings. As a result, service quality for students will improve in the end, and students are more likely to use the library’s services.

Mohammadi et al. examined students’ familiarity with reference resources, as well as the necessity of providing user education based on students’ viewpoints.²⁶ Findings showed that students found LUE to be necessary and beneficial, and students would like to see experts and professional librarians in the reference department. Mukuvi used the gap model to assess users’ perception of service quality levels in an academic library, and the study found that libraries need to work more on improving staff/user relations in their delivery of service.²⁷ In particular, there is a need for serious training of staff on issues of public relations and customer care. The difference between what users expect about the quality of the service and what librarians judge it to be when users actually use the service represents a gap.

Studies on LUE in East Asian countries are relatively few. Sun outlined the importance of information literacy in Chinese higher education using Tsinghua University as an example. The study also explained that librarians need to work closely with course instructors to meet the needs of students. Fang pointed out that, with the rapid developments of academic librar-

ies in China, instead of spending too much manpower and resources developing collection and other hardware, librarians should place more emphasis on enhancing the efficiency of the facilities or equipment utilization, as well as the overall quality of information services.²⁸

Moreover, according to Kanazawa, the main issues in Japanese academic libraries are to have a variety of educational content as well as execute more advanced LUE far beyond library orientations.²⁹ Also, it is important for academic libraries to make use of computer-assisted instruction for LUE in order for every library user to learn different content at their own pace. Unfortunately, the studies listed above did not look into students' perceptions toward these services. This article, then, will attempt to fill this gap.

Inquiry-based learning and IL skills go hand-in-hand with each other. In fact, Wenger calls this a natural partnership that "promotes lifelong learning by helping students move away from the memorization of facts" and helps them learn the research process.³⁰ Earlier studies of medical libraries have concluded that more inquiry-based learning environments have led to higher rates of library use. Rankin found that students who took part in inquiry-based learning programs showed higher rates of library use, even taking advantage of the knowledge gained in library instruction programs.³¹ Marshall et al. showed similar findings. Users in inquiry-based learning environments in this study would be more likely to learn from friends and use trial and error in their searches.³² Even more, as Chen and Huang point out, this type of inquiry-based-style curriculum enables students to collaborate with each other and to learn from each other in the research process.³³ Although previous research on this only relates to medical libraries, there seems to be a connection between inquiry-based learning and higher usage of libraries. Librarians can take advantage of this through embedded IL instruction beyond basic introductions to library resources, thereby supporting the lifelong learning of their patrons. Further studies would be needed to explore and confirm these connections.

Aims of the Study

The main objectives of LUE involve supporting the overall teaching and research of the university community by using different teaching practices and methodologies to engage users to develop the necessary IL and research skills. Providing LUE to students at university level and equipping them with high-level IL skills are absolutely vital for enabling them to adapt to the ever-changing technological developments and educational environment. Through a comparative approach, the main goal of this study was to understand the students' perceptions toward LUE programs in two universities, namely Peking University (PKU), located in China and the University of Tsukuba (UT), located in Japan. These two universities were chosen for pragmatic reasons, because of the researchers' professional connections with the institutions.

Furthermore, the results obtained from this study will help the library managers in understanding users' own perceptions of their needs in LUE—thereby reducing the gaps between user perceptions and expectations of the desired quality of library services from a cross-cultural view. Undoubtedly, a better understanding of students' perceptions toward LUE can lead to a better understanding of how students use library resources and what their information needs are. With this better understanding, library and information science (LIS) professionals can then improve upon their current services and offer more favorable services and programs for their university communities.

This study was guided by the following research questions:

1. What are the similarities and differences in attitudes and perceptions of the students between the two universities (UT and PKU) toward the series of LUE programs carried out by their respective university libraries?
2. To what extent do these students value the LUE programs carried out by the two university libraries?
3. To what extent are the students at the two universities (UT and PKU) incorporating the services and resources provided by their university libraries into their current research practices and formal learning in the context of inquiry-based learning?

Significance and Values of the Study

This study was set up with the aim to differentiate between patrons' perceptions of what and how LUE services should be delivered and how well those services have met the expectations of the students at both UT and PKU. The value of this study lies in the fact that it is unique for its evaluation of library users from Confucian Heritage Culture (CHC) backgrounds, as well as their perceptions and attitudes toward LUE. Studies on users from this cultural background are relatively few, and this information would be useful for information professionals working with CHC users, as well as giving a more international perspective of LUE. As mentioned before, many Asian countries of Confucian heritage, such as China, Hong Kong, Taiwan, Vietnam, Singapore, Korea, and Japan, are universally known for their traditional Confucian education model—an education system that depends heavily on standardized examinations.³⁴ Particularly for Japan, many educators and scholars have pointed out that the entire education system—all the way from kindergarten to the end of university, is deeply rooted in rote-memorization learning.³⁵

The concept of inquiry-based learning that associates with the ideas of critical thinking, students' self-directed learning, and problem-solving first emerged in the Western school and higher education context. Although it emerged relatively recently, this kind of inquiry-based learning model has since been adopted slowly by selective universities in Asia. Despite the fact that many of these universities in Asia were typically founded based on Western models and are trying to adopt the inquiry-based curriculum, they are still very much rooted in their own local cultures, resulting in their teaching and learning practices appearing very different from their Western counterparts.³⁶ It is commonly acknowledged that Asian students of Confucian culture (China and Japan in particular) approach learning much differently in comparison to their Western counterparts, because their Confucian culture and traditions tend to place strong emphases on unquestioned loyalties, respect, and obedience toward authority (including teachers), causing most students to not ask questions, be shy, lack self-esteem, and be afraid of being wrong. In short, Asian students are also known for having a tendency to avoid conflicts or disagreements in class.³⁷

Scholars and educators have pointed out that the participative approach of inquiry-based learning that requires students to develop critical capacities via active participation in class could be easily discouraged, owing to the hierarchical relationship between teacher and student.³⁸ For example, the active and critical inquiry approach toward learning usually requires shifting the focus to the students (that is to say, students directing their own learning mode and progress) from the knowledgeable teacher. In other words, students and teachers would need to deconstruct their traditional roles in the classroom, by giving students the authority as well as the freedom to take part in critical discourse—which means the teachers would have to give up a certain amount of control and putting up with a certain amount of confusion.³⁹ All

these are clear implications of the active, inquiry-based learning approach being incompatible with the many of the Asian educational values and cultural traditions—particularly when students' success is often measured by test scores or students' ability to provide standardized model answers based on memorization. On the other hand, the inquiry-based model (that is, the non-Confucian approach) requires students to frame their own questions and learn how to find the answers, instead of just “parroting” information. In this active inquiry-based learning context, the librarians have an important and unique role to play in terms of assisting/guiding students to develop the necessary IL skills to go through the process of inquiry. Further examination of CHC users can give a better understanding of their research needs, and user expectations of LUE programming, as well as an understanding of the potential for these learning environments to affect these perceptions.

Furthermore, findings of this study are useful for identifying the different learning needs among these two groups of students, as well as other barriers that were preventing the LUE (particularly IL skills instructions) to be fully integrated into students' overall learning and the university's core curriculum as a whole. Looking at students' perceptions and attitudes of these services can ultimately be useful in understanding their research needs, expectations of library programming, and usefulness of LUE programs in meeting their learning needs. Finally, findings of this study could facilitate academic librarians' ability to build connections with the students. Such insights are useful for developing new and more engaging approaches, as they can help strengthen arguments for new changes and improvements to services among academic libraries.

Methodology and Data Collection

For this study, the questionnaire was the main method for data collection. The online questionnaire used in this research had three main parts: (1) basic demographics of the students; students' perceptions and satisfaction toward LUE programs; and (3) satisfaction toward the overall professional competence of reference librarians (LUE) in question. (See appendix for a summary of the list of questions used for the questionnaire survey.) The questionnaire was developed through a joint effort. The researchers first had discussions with LUE librarians at both institutions for obtaining background information about LUE programs carried out at each university. The original questionnaire was written in Chinese and was then translated into Japanese for surveying the UT students. The research period at PKU was from September to November 2016, while the research period at UT was from April to May 2017. At PKU, the questionnaire was first distributed to the students in paper form at the PKU Library, followed by using WeChat (an online mobile text and voice messaging communication app, commonly used in Mainland China) for eliciting survey responses from different student groups at a campuswide level. At UT, a similar campuswide approach was adopted for distributing the questionnaire to students of different academic disciplines and study levels—that is, first administering the questionnaire in person by the researcher at the UT Library. The researchers then sent the same questionnaire digitally via an online app called LINE that runs on smartphones or tablets. A combination of both paper and online methods for administering the questionnaire surveys was meant to maximize the scalability and speed of data collection at both university campuses. Responses totaling 426 were collected from both universities, with 200 responses from PKU and 226 from UT. Data collected were analyzed by descriptive and inferential statistics using the SPSS software.

Technical Limitations

There are many ways to examine the perceptions and attitudes of individuals toward the services provided by a library. However, this study was based solely on quantitative questionnaire data. Quantitative measures, such as surveys, can only provide insights into this process on a larger scale, but they will not indicate the underlying incentives for individual students' views toward their university libraries and their services.

Another limitation for this study involves language. Higher education in East Asia is becoming increasingly internationalized over the years. As a result, many universities in Japan and China are offering degree programs in English. However, the questionnaire developed for this study was originally written in Chinese and then translated into Japanese for surveying students at UT. As a result of this, responses of international students who did not speak either of these languages were left out from this study. Further studies would be needed to address the potential issues of international students' use of libraries in both China and Japan. Finally, a larger number of respondents at UT were graduate students, and larger numbers of respondents at PKU were undergraduate students. Such results might have affected the comparison for the reason that students' assignment requirements (study level), and their relations to library use would be different.

Data Analysis

The user demographics could strongly influence the student respondents' information needs and perceptions toward the university library. A total number of 426 survey responses were collected from both universities (see table 1). Out of all 426 responses, 252 (59%) were female, while the remaining 174 (41%) were male (see table 1). A full list of academic majors among the student respondents is shown in table 1. It should be highlighted that, out of all 226 respondents at UT, a large number (127, or 56%) of them were graduate students; meanwhile, 62 (27.4%) were Library and Information Science (LIS) majors. On the other hand, graduate students made up only 27 percent of the total surveyed population at PKU. Interestingly, out of all 200 PKU respondents, 62 (31%) of them majored in LIS (see table 1).

LUE supports users and enables them to make optimal use of the library. It is often referred to as library instruction, library orientation, reader education, and

	UT	PKU	Total
Male	83	91	174
Female	143	109	252
Total	226	200	426
Undergraduates	99	146	245
Postgraduates	127	54	181
Total	226	200	426
Respondents' Majors			
Library & Information Science	62	62	124
Social Sciences	36	32	68
Education	11	17	28
Business	6	13	19
Information Technology	37	19	56
Language	18	18	36
Science	22	26	48
Medicine	4	2	6
Arts	8	0	8
Engineering	22	11	33
Total	226	200	426

information literacy, among others (Ren, 2000). The first questionnaire item asked students to rate their perceived importance of the range of LUE programs by using a 5-point Likert scale, and the “Not Applicable” option was not provided. The survey results indicated that, out of all nine user education programs, UT students considered “Thesis writing instruction” to be most important, followed by “Library orientation,” then “Reference services.” On the other hand, students at PKU thought that “Library instruction (catered for e-resources)” was most important, followed by “Library orientation,” then “Database instruction” (see table 2). The average total score for each institution (UT’s 3.75 and PKU’s 4.06) indicate that PKU students perceived user education at PKU as more important than their UT counterparts. The results of our pair-wise t-test directly compared the two universities. The standard deviation value is fairly high, by which we can assume that students were having more diverse opinions toward particular LUE programs, which they thought were more important to them (see table 2).

TABLE 2
Range of User Education Programs and Their Perceived Importance Among Student Respondents (5-point Likert scale)*

	UT	PKU	T-value
Library Instruction (catered for E-resources) ($P < 0.01$)	3.76 (S=0.928)	4.42 (SD=0.804)	-7.674
Library Orientation ($P < 0.01$)	3.83 (SD=0.903)	4.23 (SD=0.888)	-4.809
Research Consultation ($P < 0.01$)	3.99 (SD=1.018)	3.80 (SD=0.931)	-1.961
Database Instruction ($P < 0.01$)	3.67 (SD=0.929)	4.20 (SD=0.902)	-6.362
Course Assignment Consultation ($P > 0.01$)	3.68 (SD=1.007)	3.91 (SD=0.973)	-0.653
General Library Tour ($P < 0.01$)	3.58 (SD=1.000)	3.91 (SD=1.101)	-3.664
Subject-specific Library Courses ($P < 0.05$)	3.70 (S=0.913)	4.12 (SD=0.886)	-2.229
Online Information Literacy Instruction ($P > 0.05$)	3.72 (S=1.002)	3.67 (SD=1.122)	0.670
Virtual Reference Services ($P > 0.01$)	3.82 (S=0.932)	4.00 (SD=0.946)	-2.424
Total Average	3.75	4.06	

*The mean difference is significant at the 0.05 level.

On the questionnaire, student participants were asked why they did not take part in the LUE programs carried out by their respective university libraries. Survey results indicate that there were very small differences between UT and PKU in this area. For UT students, the top three reasons for not wanting to take part in user education included the following: (1) a lack of information about the content of LUE programs; (2) not knowing the time of the programs; and (3) scheduling conflicts. PKU students all addressed similar issues with the LUE programs, but they felt that time was the most important factor in influencing their decision not to attend LUE programs (see table 3). However, the difference of (2) “I do not know when these user education programs are conducted,” is not statistically significant, with $P > 0.01$. These findings are similar to Kiilu and Otiye, who found that the leading reasons for infrequent or nonuse of library resources include the lack of awareness, perceived lack of relevance, lack of time, long distance to go to the library, lack of skills in the use of electronic resources, access to the Internet from home, as well as borrowing from other libraries.⁴⁰

TABLE 3
Reasons Why Students Don't Take Part in Library User Education Programs
*(5-point Likert scale)**

	UT	PKU	T-value
I am not well informed by the details of the user education programs that are provided by the University Library (except library orientation) ($P < 0.01$)	3.59 (SD=0.997)	3.11 (SD=1.247)	3.980
I am interested in, but I do not know when these user education programs are conducted ($P > 0.01$)	3.48 (SD=1.145)	3.27 (SD=1.205)	1.907
I can find information by myself ($P > 0.01$)	3.08 (SD=1.167)	3.00 (SD=1.220)	0.602
I want to go; they always clash with my class schedule ($P > 0.01$)	3.22 (SD=1.079)	3.25 (SD=1.096)	-0.142
The topics/format of the user education programs look boring ($P > 0.01$)	2.82 (SD=0.984)	2.81 (SD=1.166)	0.372
I don't know why ($P < 0.01$)	2.98 (SD=1.178)	2.63 (SD=1.196)	2.997
I don't think they are useful for me at all ($P < 0.01$)	2.72 (SD=1.200)	2.37 (SD=1.108)	3.107
Total Average	3.12	2.92	

*The mean difference is significant at the 0.05 level.

On the questionnaire, respondents were asked to rate the effectiveness of different outreach and marketing strategies for promoting the user education programs launched by UT and PKU. The survey results indicate that the UT students considered the following to be the most effective ways for encouraging them to take part in the user education programs: (1) sending batch emails to students; (2) sending messages through social network platforms; and (3) making announcements on the library's homepage. On the other hand, PKU students found that (1) asking professors to encourage student participation; (2) sending batch emails; and (3) messages through social network would be most effective (see table 4).

Students were also asked to identify which incentives would be more effective in terms of attracting them to attend the LUE programs. The survey results reveal that students at UT preferred to be awarded by cash coupons after attending the LUE workshops. On the contrary, students at PKU preferred to earn (academic) credits instead (see table 5).

TABLE 4
Ways for Promoting Library User Education Services and Their Perceived Effectiveness
*(5-point Likert scale)**

	UT	PKU	T-value
Put up posters throughout the entire campus ($P < 0.01$)	3.56 (SD=1.095)	3.66 (SD=1.010)	-2.666
Ask professors to encourage the students to attend ($P > 0.05$)	3.61 (SD=1.050)	4.07 (SD=0.959)	-0.426
Make announcements on university library homepage ($P > 0.01$)	3.71 (SD=0.940)	3.66 (SD=1.010)	0.410
Send batch emails to all students ($P > 0.01$)	3.78 (SD=0.967)	3.97 (SD=0.982)	-2.004
Send messages via online social networking platforms/apps ($P > 0.01$)	3.73 (SD=1.002)	3.90 (SD=1.039)	-2.041
Total Average	3.67	3.85	

*The mean difference is significant at the 0.05 level.

TABLE 5
Incentives for Attracting Students to Attend Library User Education Programs and Their Perceived Effectiveness (5-point Likert scale)*

	UT	PKU	T-value
Students will be given cash coupons after attending the library workshops ($P < 0.01$)	3.76 (SD=1.049)	3.91 (SD=0.909)	-2.647
Students can earn credits (like other academic courses) after attending the workshops ($P > 0.05$)	3.70 (SD=1.172)	4.31 (SD=1.044)	-5.672
Professors invite the reference librarians to teach library workshops inside the classrooms in person instead of waiting for the students to join ($P < 0.01$)	3.57 (SD=0.985)	4.19 (SD=0.926)	-7.202
Students who get the highest scores will be awarded with gifts ($P < 0.01$)	3.38 (SD=1.046)	3.81 (SD=0.949)	-5.672
Professors make it mandatory for the students to attend the workshops ($P < 0.01$)	2.75 (SD=1.166)	2.96 (SD=1.318)	-14.440
Total Average	3.43	3.83	

*The mean difference is significant at the 0.05 level.

Student respondents at both universities were asked to rate the professional competence of the reference or LUE librarians. The average total scores for each institution (UT's 3.56 and PKU's 3.62) indicate that PKU students perceived the LUE librarians at PKU to be more user-friendly, service-oriented, and more professionally competent than their UT counterparts. Interestingly, reference librarians at both UT and PKU received comparatively low scores in the following three attributes: (1) Engaging, (2) Interesting, and (3) Creative. The average total score of PKU librarians was higher than of the UT librarians. Table 6 suggests that value significantly different from the other universities based on ANOVA test and Tukey-Kramer multiple comparison (see table 6).

TABLE 6
Students Perceptions toward Reference Librarians (5-point Likert scale)*

	UT	PKU	T-value
Service-oriented ($P > 0.05$)	3.84 (SD=0.897)	3.90 (SD=0.910)	-1.011
Helpful ($P < 0.01$)	3.90 (SD=0.891)	3.91 (SD=0.854)	7.378
Friendly ($P > 0.01$)	3.55 (SD=1.030)	3.93 (SD=0.844)	-2.483
Professional ($P > 0.01$)	3.82 (SD=0.884)	3.91 (SD=0.906)	-1.767
Intellectual ($P < 0.01$)	3.58 (SD=0.918)	3.72 (SD=0.936)	-3.344
Efficient at Work ($P > 0.01$)	3.72 (SD=0.944)	3.72 (SD=0.936)	-0.670
Outgoing ($P < 0.01$)	3.41 (SD=0.893)	3.47 (SD=0.885)	-3.549
Interesting ($P > 0.05$)	3.24 (SD=1.007)	3.16 (SD=0.979)	0.106
Engaging ($P > 0.01$)	3.38 (SD=0.942)	3.23 (SD=0.939)	0.400
Creative ($P < 0.01$)	3.23 (SD=0.929)	3.20 (SD=0.924)	-8.178
Total Average	3.56	3.62	

*The mean difference is significant at the 0.05 level.

TABLE 7
Level of Satisfaction toward Scope and Contents of Library User Education Programs
*(5-point Likert scale)**

	UT	PKU	T-value
Overall contents are very clear and easy to follow ($P < 0.01$)	3.78(SD=0.757)	3.62 (SD=0.855)	4.903
Library orientation is helpful in terms of building a positive image of about the university library and its services among the students ($P < 0.01$)	3.48 (SD=0.767)	4.00 (SD=0.836)	-6.487
Overall quality of the user education programs provided by the university library is satisfactory ($P > 0.05$)	3.69 (SD=0.714)	3.62 (SD=0.986)	0.940
Overall contents are very useful and relevant to my current research/assignments ($P > 0.05$)	3.72 (SD=0.875)	3.65 (SD=0.862)	0.810
Total Average	3.66	3.72	
*The mean difference is significant at the 0.05 level.			

Participants were asked to evaluate the overall scope and contents of the LUE programs using a 5-point Likert scale. A majority of the UT students agreed that the overall contents of the LUE programs were clear and easy to follow (score 3.78, see table 7). On the other hand, a large number of the PKU respondents agreed that the library orientation was helpful in terms of building a positive image for their university library and its services among the students (score 4.00). The average total score for each institution (UT's 3.66 and PKU's 3.72) indicate that PKU students were slightly more satisfied with the range of LUE programs provided by their university library than their UT counterparts (see table 7). Table 7 also suggests that value significantly different from the other universities based on ANOVA test and Tukey–Kramer multiple comparison (see table 7).

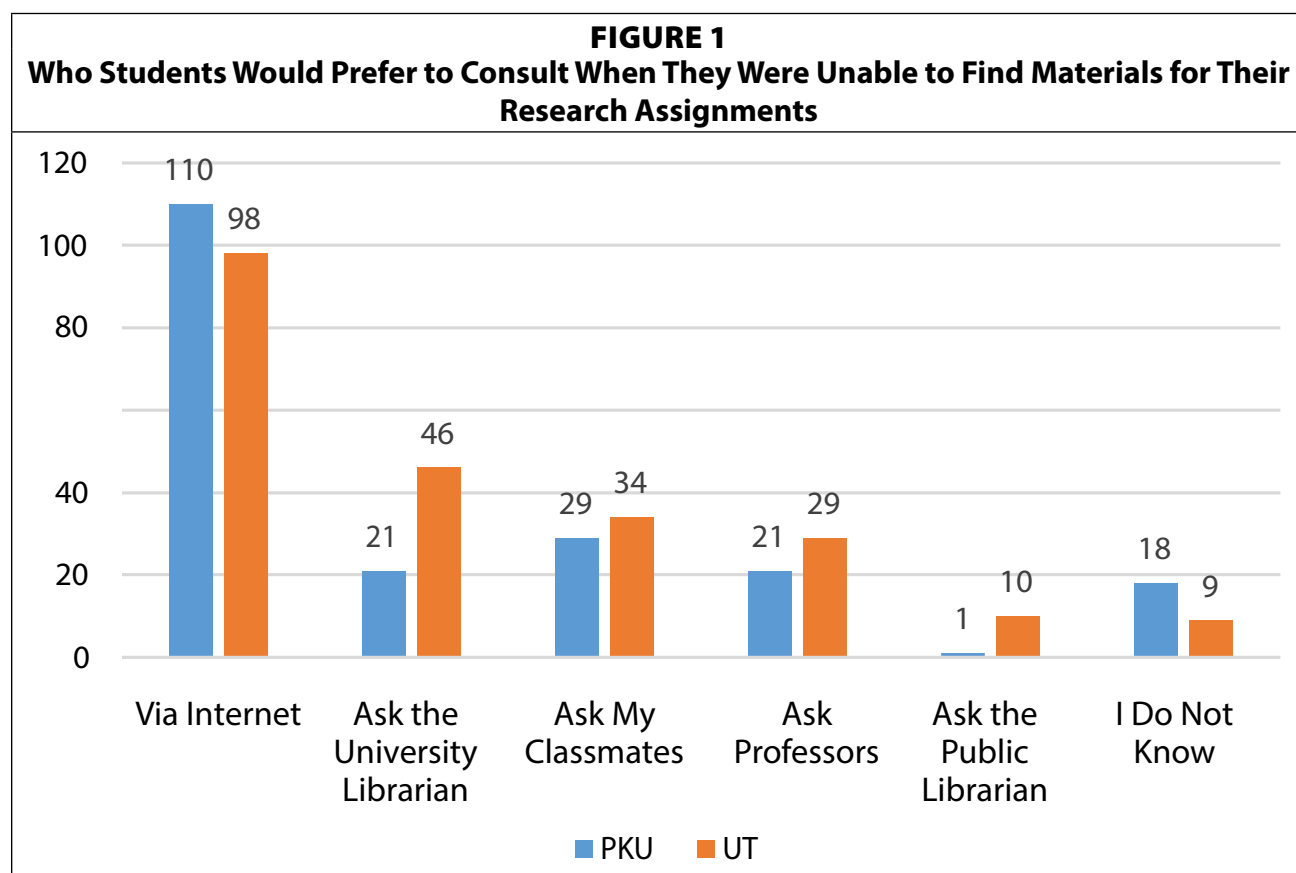
Questionnaire item number 8 was designed to examine the extent to which students valued the importance of LUE programs. Survey results indicated that students at both UT and PKU considered LUE to be one of the important parts of students' overall learning in the university. Despite that, students at UT and PKU still thought they could "make good use of the library resources, even though they do not take part actively in the LUE programs actively." In addition,

TABLE 8
Perceptions toward Library User Education Programs *(5-point Likert scale)**

	UT	PKU	T-value
Library user education is one of the important parts of students' overall learning in the university ($P < 0.01$)	3.86 (SD=0.863)	4.21 (SD=0.816)	-3.962
Students can still make good use of the library resources, even they do NOT take part actively in the library user education programs ($P > 0.05$)	3.36 (SD=0.784)	3.28 (SD=1.134)	0.645
All students should understand what library user education is before graduation ($P < 0.01$)	3.81 (SD=0.749)	4.20 (SD=0.821)	-4.925
User education workshops should be made mandatory for students to attend by the faculty ($P > 0.05$)	2.87 (SD=1.023)	2.68 (SD=1.160)	1.402
Total Average	3.47	3.59	
*The mean difference is significant at the 0.05 level.			

both of the two university students failed to agree that “User education workshops should be made mandatory for students to attend by the faculty.” The average total score for each institution (UT’s 3.47 and PKU’s 3.59) indicated that PKU students had slightly higher perception (in terms of importance) toward the LUE programs provided by their university library than their UT counterparts (see table 8). Table 8 suggests that value significantly different from the other universities based on ANOVA test and Tukey–Kramer multiple comparison.

Questionnaire item number 6 asked the student respondents if they were unable to find materials (such as a book or a research article) to finish their research/assignments, whom/what would they consult. Survey results indicate that for the UT students, the top three ways for them to find the information were the following: (1) the internet; (2) classmates; and (3) university librarians. PKU students also found the internet and classmates to be important sources of information, followed by university librarians and professors (see figure 1). In short, the internet was reported to be most popular among the participants at both of the two universities. This is no surprise considering the findings of the Online Computer Library Center,⁴¹ who reported that 89 percent of college students’ electronic information searches began with a search engine such as Google, while only 2 percent began with the library website—for the reason that students considered search engines faster, more convenient, and easier to use by comparison.



Discussion

The results of this study indicate that, compared with those from UT, PKU students on the whole expressed higher ratings in many areas toward the LUE programs provided by their respective library, and they also had a more positive view about the professional competence

of the LUE (reference services) librarians. In this section, the researchers will discuss in detail the various sociocultural and educational (or, more specifically, curriculum-related) factors affecting library instruction sessions, as well as students' perceptions of the importance of these LUE services.

This study was based in Japan, and the lead researchers had spent extensive time studying as foreign students at UT. For this reason, the researchers could shed light on the key issues being examined from firsthand experience, as well as from a cross-cultural perspective. The researchers believed that the different perceptions found between the PKU and UT groups were a direct result of the distinctive learning practices (associated with their Confucian Heritage Culture) and curricular requirements exercised between the two universities.

PKU versus UT: Different Learning Modes and Assignment Requirements

Despite the stereotypes of the students of Confucian Heritage Culture, the survey results indicate that the PKU students expressed higher ratings in many respects toward the overall LUE programs, in comparison to the UT students. It was believed that the different levels of perceived importance found between the two student groups were a direct outcome of the different assignment requirements, which, in turn, shape the distinctive learning practices, information needs, and library usage patterns carried out by the two student groups. It is believed that students at PKU are expected to engage in a more advanced level of inquiry-based learning. According to the researchers at PKU, the true essence and benefits behind implementing true inquiry-based learning at PKU is to train the next generation of graduates with the necessary skills to think critically, creatively, solve problems independently, and work/learn collaboratively, among other skills. In other words, it endows these young graduates with the core skills that would enable them to find success in the increasingly globalized (one world economy) job market. In addition, the emphasis on collaborative learning is intended to foster the next generation of PKU graduates to be able to embrace diversity at work, to be able to work collaboratively with people from different backgrounds to achieve shared/common goals, thereby achieving greater productivity.⁴² In addition, via true inquiry-based learning, students would be able to develop higher-level thinking skills (not just recalling facts), oral communication, self-management, and leadership competencies, promotion of student-educator interactions, increase in self-esteem and sense of responsibility, and, most important, exposure to and an increase in understanding of diverse perspectives.⁴³ Moreover, being a successful collaborator, with the ability to work effectively with others has become a critically important skill for both career and life success, as well as the key to survive in the world that has become increasingly globalized and multicultural with an integrated "one-world" economy.⁴⁴ The American Society for Horticultural Science also noted that collaborative learning allows students to practice skills that will enhance their future careers, including communication, conflict resolution, creativity, and time management.⁴⁵

On the other hand, Japan is seen as a conformist and collectivist society that appears to value obedience over collaborative problem-solving.⁴⁶ As mentioned previously, Western-style collaborative learning could be seen in Japan as leading to unnecessary conflicts that create further disagreements, disrupting social harmony. Hence, independent problem solving and critical thinking are not emphasized (often discouraged), for the reason that problem solving and knowledge are normally sought from senior members of groups rather than from collaboration with each other (peers). The researchers strongly believe that all these sociocultural

and educational factors are influential in shaping the learning practices among the student respondents, resulting in distinctive perceptions and attitudes toward the LUE programs between the two student groups. In the following sections, we will further discuss and compare the survey results collected at PKU and UT.

Subject Librarianship and Inquiry-based Learning

In comparison to the UT counterparts, the survey results showed that PKU students gave higher ratings (more positive views) as a whole toward the professional competence of the LUE librarians (for example, being more helpful, friendly, and professional). The researchers believe that it is a positive outcome of the Subject Librarian System, established by the PKU Library.

As mentioned in the opening statement of this section, the university library and its LUE services have an important role to play in terms of serving as collaborator for implementing true inquiry-based learning on a campuswide level. The PKU Library must have acknowledged the importance of IL skills in an inquiry-based learning environment, and they have therefore decided to invest a great deal of manpower (LUE librarians) and resources to implement this subject librarian system. Despite the recognition of the importance of these LUE services, “subject librarianship” is still not fully popularized across high education institutions in Mainland China, with only less than half of the major Chinese university libraries employing subject specialists.⁴⁷ In other words, PKU Library could be seen as a pioneer in LUE services in Mainland China.

On the other hand, there is not a subject librarian system at UT, despite being regarded as one of the top universities in Asia, and placing equal emphasis on both teaching and research. The researchers are unable to identify all the possible reasons behind the lack of subject librarians at UT, as many of such reasons could be related to budgeting, senior-level management/administration, professional qualification requirements, and the like. However, the researchers are certain that this lack-of-subject-librarian situation is one of the potential factors that has resulted in lower ratings toward the LUE programs and librarians at UT. As mentioned earlier, many Japanese faculty and students might not see the real need to implement inquiry-based learning, even at university level—or learning that involves critical thinking is considered not compliant with collectivism, which Japanese society strongly emphasizes.⁴⁸ In fact, as Zhang notes, students accustomed to a collectivist society may “restrain themselves to avoid acting differently from others, [and] rarely participate in open discussion for fear of having to debate or confront with other students.”⁴⁹ In other words, this is the opposite of what true inquiry-based learning emphasizes. Because of the lack of subject librarians, only very general instruction sessions are available at the UT Library. As mentioned earlier, true inquiry-based learning is closely associated with competence in IL skills and active library use. Since inquiry-based learning is not emphasized among Japanese universities, it is only natural to see that students at UT do not recognize their university library and LUE as an important or integral part of their formal learning.

Other factors causing less positive views toward the UT librarians may be because librarians in Japan are not quite seen as equal partners in teaching by the academic counterparts. In fact, this situation has been affecting the learning and research practices at the university level in various ways. On the contrary, the situation is very different from PKU in that librarians are considered “academic staff,” carrying faculty status, and they are expected to serve as

teaching (co- instructional) partners, especially for the subject librarians who are responsible for supporting all teaching, leaning, and research activities for the entire university community. Furthermore, the UT librarians are not as actively involved in the delivery of IL instructions and other research consultation services, as well as carrying the same faculty status as their PKU counterparts. The researchers truly believe, therefore, that these could be the core reasons resulting in the LUE librarians at UT receiving lower scores about their professional competence when compared against their PKU counterparts.

To expand on the point of the subject librarian system and its relations to inquiry-based learning, it is important for academic libraries to offer tailor-made user education programs at different levels to satisfy the varying needs among different student groups. According to Gregory et al., the academic library should work with different faculties, including giving out codesigning course materials, as well as to encourage faculty members to recommend students to consult with subject librarians as part of the research process for their students.⁵⁰ However, as mentioned earlier, similar to many other universities in Japan, there is no subject librarian system established at UT Library. The reason is that many issues related to professional training for subject librarians are still unsolved. According to the UT librarians, since the librarian position, ranking, and professional qualification requirements are different, and they are not seen as intellectual equals by their faculty counterparts, this might have made it more difficult for the academic librarians in Japan to establish any form of formal or ongoing collaborations (particularly in IL skills instructions) with them.

As mentioned previously, this study was carried out with the belief that inquiry-based learning should be the epitome of higher education. There is a wide spectrum of instructional approaches to achieve inquiry-based learning. Regardless of which styles or approaches (cognitive learning, constructive learning, project-based learning, authentic learning, or any other approach), they all place strong emphasis on creating an environment that is conducive to realizing the following:

- Learning should be student-directed;
- Students should be encouraged to use and learn from multiple resources, as well as a wide range of media; and access to such resources should go beyond the school or even the physical library;
- Students engaging in projects/assignments should involve true research components (for example, students are expected to build their own narratives that would reflect their own understanding of the topics given/chosen, rather than just regurgitating facts);
- Lifelong learning beyond the current assignment;
- Teachers and librarians forming closer instructional collaboration, with both librarians and teachers playing interchangeable roles.

As explained by Marcum, inquiry based-learning is “participative in practice and constructivist in theory”; librarians must therefore emphasize assisting students with their needs and not imposing any specific “disciplinary agenda” on them.⁵¹ In other words, librarians are expected to play a vital role in creating an environment that is supportive to inquiry-based learning practices. In this environment, the LUE librarians have an important role to play, which is to serve as guides to assist the students in navigating through the gateways of information: for example, advising and facilitating students’ exploration of the research process. All these goals cannot be achieved without students having mastered the basic IL skills. As highlighted

by Fister, “It may be the very ubiquity of information literacy that makes it hard to nail down. After all, what scholarly activity doesn’t involve information literacy?”⁵² In fact, many studies have revealed in different ways that IL contributes greatly to inquiry-based learning.⁵³ As highlighted by Marcum, the library should be a “discovery center,” a place where individuals go to seek knowledge for their own purposes—that is, to go to the library on their own accord to answer their own questions using the available resources,⁵⁴ as opposed to depending on someone else, like a teacher, to determine how information is learned and what information should be learned. In this context, librarians (LUE librarians in particular) are expected to serve as active co-instructional partners in the implementation of inquiry-based learning, which addresses students’ learning needs and interests at all levels. In other words, “the library offers a uniquely fruitful site for learning how to inquire. It is common ground for all disciplines and a place where meaning isn’t transmitted but rather made.”⁵⁵

Unfortunately, many university teachers (particularly in many Asian countries) were not trained to teach with an inquiry-centered approach, and, very often, higher education systems are arranged politically and structurally to support other approaches or agendas. This could be the reason behind the different perceptions and expectations toward the LUE librarians found among PKU and UT student groups. The implications are that, for higher education institutions that are opting for “true” inquiry-based learning, we would expect to see their librarians’ roles in the education sector (particularly for the LUE librarians) increasingly include teaching responsibilities, particularly in the teaching of IL skills, instructional design, as well as other facilitator/information mediator, or even performing learning-space designer roles.

It is beyond the scope and resources of this research study to identify all the possible factors that have led to the distinctive perceptions and learning differences between the PKU and UT groups, as well as unearthing every single reason behind the availability of the subject librarian system, and its lack, between the two universities. It is also not the researchers’ intention to do so.

Despite its limitations, this study has identified a list of possible sociocultural and curriculum-related factors that the researchers believe are contributing to the differences in views and attitudes toward the LUE programs and LUE librarians. The researchers believe that “true” inquiry-based learning and active/competent library use simply go hand in hand. Without the relevant IL skills to conduct proper research on a higher level, “true” inquiry-based learning simply cannot be achieved, regardless of study level.

Conclusion

The results show that PKU students on the whole demonstrated more positive views toward the LUE programs, and the professional competence of the LUE librarians at their respective university library, in comparison to their UT counterparts. Inquiry-based and collaborative learning seem to play a significant role in the shaping curriculum and students’ learning practices at PKU, whose system is highly influenced by the North American style of research and collaborative learning. According to the PKU researchers, the recent emphasis placed on inquiry-based and collaborative learning is meant to help students foster creativity, embrace diversity, and delve further into the issues beyond lists of basic facts—as a way to develop their employability skills that are sought after by the current job market in China, which has become increasingly globalized. However, some of these core skills and qualities might be seen as not appropriate for Japanese society in the sense that research beyond factual informa-

tion is not as highly emphasized (or sometimes regarded as inappropriate) within the higher education system.

Furthermore, the survey results clearly reveal that PKU students expressed more positive views and higher level of satisfaction toward the LUE services provided by the PKU Library, namely: students' perceptions toward the professional image and professionalism of the reference (LUE) librarians; (2) students' level of satisfaction toward range and contents of LUE programs; and (3) students' general perceptions toward LUE programs. All these are clear indications, evidence, and signature that PKU students as a whole were more active and frequent users of their university's library services.

For this reason, it is safe to assume that the PKU students, as a whole, were more active in incorporating the services and resources provided by the PKU Library into their current research practices and formal learning, in comparison to their UT counterparts. The PKU students being more active, more frequent, better satisfied end-users was the direct outcome of the PKU librarians being very successful in terms of tailor-making a series of LUE programs that would meet the learning needs of the PKU students at many levels. Undoubtedly, the PKU teaching staff and librarians together play a very important role in terms of creating an environment featuring the university library as the heart of student-directed and research-led learning. The researchers therefore conclude that their positive experiences were a direct outcome of the PKU students being more competent and independent in using the PKU Library resources, as they are equipped with the necessary IL skills. LUE librarians at PKU appear to play a major role in passing such important IL skills onto their student users.

A final point of note involves a discussion of LIS students. In this study, roughly one-third of respondents at both universities were LIS majors, which may have had an effect on the perceptions of LUE programs. For a future follow-up study, the researchers plan on surveying the LIS and non-LIS student populations with the assumption that LIS students would have more positive expectations of the LUE programs and higher favorability ratings toward librarians and librarianship in general. In this research, since we did not include any items on the questionnaire asking students about under what situations they would go to use the library, whether they faced certain difficulties or successful experiences in using the library, and if such experiences were in fact directly learning- or assignment-related. Hence, we were unable to determine to what levels or forms of inquiry-based learning practices were actually related to library use. For this reason, our findings might be slightly inconclusive. However, given its limitation, the researchers hope that this study could inspire other researchers to do further studies on the interrelations between collaborative/inquiry-based learning and library use on different academic levels, and from different academic disciplines' perspectives on a cross-national and cross-cultural level.

APPENDIX. A Summary of the List of Questions Used for the Questionnaire Survey

1. Please rate how important you view each of the following library user program listed below (for instance, Library orientation; Research consultation; Database instruction workshops; Other) (5-point Likert scale).
2. If you have not participated in the following library user education programs listed below, please rate how much you agree with the reasons listed below (5-point Likert scale).
3. Please rate the effectiveness of the following strategies for marketing the library user education programs among the student community (5-point Likert scale).
4. Please rate the effectiveness of the following incentive strategies for attracting students to attend the library user education programs (5-point Likert scale).
5. If you are unable to find information for writing your research or assignment, whom would you first turn to for seeking assistance? (My professor; My classmate; University Librarian; I simply give up; Other)
6. Based on the following criteria, please rate the friendliness and professional competence of the user education librarians serving at your university (5-point Likert scale).
7. Please rate the overall quality of the library user education programs, and how relevant they are to the academic courses that you are currently taking (5-point Likert scale).
8. Please rate how important you think library user education is (with criteria ranging from building a positive image for the library throughout the university community to enabling students to become self-dependent library users and independent learners, and so on) (5-point Likert scale).
9. Do you have any comments or suggestions regarding this questionnaire survey or for the user education programs provided by your university library?
10. What is your gender?
11. Your study level?
12. What is your academic discipline?
13. Do you have any library-related working experiences? If you do, please specify.

Notes

1. T.A. Ogunmodede and E.N. Emeahara, "The Effect of Library Use Education as a Course on Library Patronage: A Case Study of LAUTECH Library, Ogbomoso, Nigeria," *Library Philosophy and Practice*, Paper 426 (2010): 1, available online at <http://digitalcommons.unl.edu/libphilprac/426> [accessed 27 February 2017].

2. V.M. Tiefel, "Library User Education: Examining Its Past, Projecting Its Future," *Library Trends* 44, no. 2 (1995): 318–38.

3. Qianxiu Liu, Patrick Lo, and Hiroshi Itsumura, "Measuring the Importance of Library User Education: A Comparative Study between Fudan University and the National Taiwan Normal University," *Journal of Academic Librarianship* 42, no. 6 (2016): 644–54.

4. Ibid.

5. P. McKinney, "Inquiring-based Learning and Information Literacy: A Meta-analytical Study; Center for Inquiry-based Learning in the Arts and Social Sciences," University of Sheffield (2010), available online at https://www.sheffield.ac.uk/polopoly_fs/1.122797!/file/IL_meta-analysis_PM-FINAL.pdf [accessed 27 February 2017].

6. Pamela McKinney and Philippa Levy, "Inquiry-based Learning and Information Literacy Development: A CETL Approach," *Innovation in Teaching and Learning in Information and Computer Sciences* 5, no. 2 (2006): 1–13.

7. Times Higher Education World University Rankings (2017), available online at https://www.timeshigher-education.com/world-university-rankings/2017/reputation-ranking#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/stats [accessed 27 February 2017].

8. Ibid

9. Hong Jian, "A Contrastive Study of Cultural Diversity of Learning Styles between China and the United States," *International Education Studies* 2, no. 1 (2009): 163; Ference Marton, "Memorizing and Understanding: The Keys to the Paradox?" *The Chinese Learner: Cultural, Psychological and Contextual Influences* (1996): 69–83; Mohsen Tavakol and Reg Dennick, "Are Asian International Medical Students Just Rote Learners?" *Advances in Health Sciences Education* 15, no. 3 (2010): 369–77; Ganakumaran Subramaniam, "Confronting Asian Concerns in Engaging Learners to Online Education," *International Education Studies* 1, no. 4 (2008): 10–18.

10. Nguyen Phuong-Mai, Cees Terlouw, and Albert Pilot, "Cooperative Learning vs Confucian Heritage Culture's Collectivism: Confrontation to Reveal Some Cultural Conflicts and Mismatch," *Asia Europe Journal* 3, no. 3 (2005): 403–19.

11. Guy Ramsay, "Computer-mediated Communication and Culture: A Comparison of 'Confucian-heritage' and 'Western' Learner Attitudes to Asynchronous E-discussions Undertaken in an Australian Higher Educational Setting," *E-Learning and Digital Media* 2, no. 3 (2005): 263–75.

12. Sally Chan, "The Chinese Learner: A Question of Style," *Education+ Training* 41, no. 6/7 (1999): 294–305; Peter Kennedy, "Learning Cultures and Learning Styles: Myth-understandings about Adult (Hong Kong) Chinese Learners," *International Journal of Lifelong Education* 21, no. 5 (2002): 430–45; Cynthia D. Melton, "Bridging the Cultural Gap: A Study of Chinese Students' Learning Style Preferences," *RELC Journal* 21, no. 1 (1990): 29–54; Helena Hing Wa Sit, "Characteristics of Chinese Students' Learning Styles," *International Proceedings of Economics Development and Research* 62 (2013): 36; Thomas Tinkham, "Rote Learning, Attitudes, and Abilities: A Comparison of Japanese and American Students," *TESOL Quarterly* 23, no. 4 (1989): 695–98.

13. Janette Ryan and Kam Louie, "False Dichotomy? 'Western' and 'Confucian' Concepts of Scholarship and Learning," *Educational Philosophy and Theory* 39, no. 4 (2007): 412–13.

14. Thi Tuyet Tran, "Is the Learning Approach of Students from the Confucian Heritage Culture Problematic?" *Educational Research for Policy and Practice* 12, no. 1 (2013): 60.

15. Ivan P. Hall, *Cartels of the Mind: Japan's Intellectual Closed Shop* (New York, NY: W.W. Norton & Company, 1998); B.J. McVeigh, *Japanese Higher Education as Myth* (London, UK: M.E. Sharpe, 2002).

16. Kentaro Iwata and Asako Doi, "Can Hybrid Educational Activities of Team and Problem-based Learning Program Be Effective for Japanese Medical Students?" *Kobe Journal of Medical Sciences* 63, no. 2 (2017): E51.

17. Kazumi Sugimura and Noriko Shimizu, "Identity Development in the Learning Sphere among Japanese First-year University Students," in *Child & Youth Care Forum* 40, no. 1 (2011): 25–41.

18. Yoshi Hendricks, "The Japanese as Library Patrons," *College & Research Libraries News* 52, no. 4 (1991): 221–25.

19. Ramsay, "Computer-mediated Communication and Culture," 263–75.

20. S. Donkai, "Possibility and Potential for a Change in Academic Libraries," *JOURNAL-Information Science and Technology Association* 54, no. 4 (2004): 190–97, available online at <http://ci.nii.ac.jp/naid/110002826911> [accessed 15 January 2017].

21. Haruki Nagata, Shin'ichi Toda, Hiroshi Itsumura, Kenji Koyama, Yasunori Saito, Masanori Suzuki, and Noboru Takahashi, "Body of Professional Knowledge Required for Academic Librarians in Japan" (2006), paper presented at the Asia-Pacific Conference on Library Information Education and Practice, Singapore, available online at <http://hdl.handle.net/10150/106139> [accessed 15 January 2017].

22. Maxwell K. Hsu, Richard G. Cummings, and Stephen W. Wang, "Business Students' Perception of University Library Service Quality and Satisfaction," *Contemporary Issues in Education Research* 7, no. 2 (2014): 137–44; Doris Bem-Bura Mwuese, "Students' Perception of Library Orientation Programme in Benue State University, Makurdi," *International Journal of Innovative Research and Development* 4, no. 3 (2015).

23. Anthony Stamatoplos and Robert Mackoy, "Effects of Library Instruction on University Students' Satisfaction with the Library: A Longitudinal Study," *College & Research Libraries* 59, no. 4 (1998).

24. Shawn V. Lombardo and Cynthia E. Miree, "Caught in the Web: The Impact of Library Instruction on Business Students' Perceptions and Use of Print and Online Resources," *College & Research Libraries* 64, no. 1 (2003): 6–21.

25. Maxwell K. Hsu, Richard G. Cummings, and Stephen W. Wang, "Business Students' Perception of University Library Service Quality and Satisfaction," *Contemporary Issues in Education Research* 7, no. 2 (2014): 137–44.

26. Mahdi Mohammadi, Alireza Isfandyari Moghaddam, and Mehri Ezadi Yeganeh, "Students' Perception of the Impact of User Education on the Use of Reference Resources: An Iranian Experience," *Library Philosophy and Practice*, August (2008): 199.

27. M. Mukuvi, "Using the Gap Model to Assess Users' Perception of Service Quality Levels in Academic Libraries: A Case of Postmodern Library, Kenyatta University and USIU Library" (PhD diss., Kenyatta University, 2014), available online at <http://ir-library.ku.ac.ke/handle/123456789/10945> [accessed 10 February 2017].

28. Conghui Fang, "Statistical Evaluation of University Libraries in China," *Vine* 35, no. 4 (2005): 221–29.
29. *Information Literacy Education in Japanese Libraries for Lifelong Learning*, ed. Midori Kanazawa (Hauppauge, NY: Nova Science Publishers, 2016).
30. Kate Wenger, "Problem-based Learning and Information Literacy: A Natural Partnership," *Pennsylvania Libraries: Research & Practice* 2, no. 2 (2014): 147.
31. Jocelyn A. Rankin, "Problem-based Medical Education: Effect on Library Use," *Bulletin of the Medical Library Association* 80, no. 1 (1992): 36–43.
32. Joanne G. Marshall, Dorothy Fitzgerald, Lorraine Busby, and Gwynneth Heaton, "A Study of library use in problem-based and traditional medical curricula." *Bulletin of the Medical Library Association* 81, no. 3 (1993): 299–305.
33. Chen, Kuan-Nien, and In-Ting Huang. "Library use by Medical Students Engaging in Problem-based Learning: A Taiwanese Case Study," *Libri* 62, no. 3 (2012): 248–58.
34. Nguyen Phuong-Mai, Cees Terlouw, and Albert Pilot, "Cooperative Learning vs Confucian Heritage Culture's Collectivism: Confrontation to Reveal Some Cultural Conflicts and Mismatch," *Asia Europe Journal* 3, no. 3 (2005): 403–19.
35. Brian McVeigh, "The Formalized Learning Style of Japanese Students" (1995), paper presented at the Annual Meeting of the Association of Language Teachers, Nagoya, Japan, available online at <https://eric.ed.gov/?id=ED403755> [accessed 10 February 2017]; Kentaro Iwata and Asako Doi, "Can Hybrid Educational Activities of Team and Problem-based Learning Program Be Effective for Japanese Medical Students?" *Kobe Journal of Medical Sciences* 63, no. 2 (2017): E51.
36. Philip G. Altbach, *Comparative Higher Education: Knowledge, the University, and Development* (Westport, CT: Greenwood Publishing Group, 1998).
37. Sally Chan, "The Chinese Learner: A Question of Style," *Education+ Training* 41, no. 6/7 (1999): 294–305; K.H. Eng, "Can Asians Do PBL?" *CDTL Brief* 3, no. 3 (2000).
38. Chan, "The Chinese Learner"; Eng, "Can Asians Do PBL?"
39. Tony Harland, "Zoology Students' Experiences of Collaborative Enquiry in Problem-based Learning," *Teaching in Higher Education* 7, no. 1 (2002): 3–15.
40. Peris W. Kiilu and Japhet Otiike, "Nonuse of Academic Library Services: A Literature Review." *International Journal of Library Science* 5, no. 1 (2016): 7–13.
41. Cathy De Rosa, *College Students' Perceptions of Libraries and Information Resources: A Report to the OCLC Membership* (Dublin, OH: OCLC, 2006).
42. Marjan Laal and Seyed Mohammad Ghodsi, "Benefits of Collaborative Learning," *Procedia: Social and Behavioral Sciences* 31 (2012): 486–90.
43. Shanti Divaharan and Lourdusamy Atputhasamy, "An Attempt to Enhance the Quality of cooperative Learning through Peer Assessment," *Journal of Educational Enquiry* 3, no. 2 (2009): 72–83.
44. Mary Beckman, "Collaborative Learning: Preparation for the Workplace and Democracy?" *College Teaching* 38, no. 4 (1990): 128–33; Elena Karpova, Bertha Jacobs, Ju Young Lee, and Arnold Andrew, "Preparing Students for Careers in the Global Apparel Industry: Experiential Learning in a Virtual Multinational Team-based Collaborative Project," *Clothing and Textiles Research Journal* 29, no. 4 (2011): 298–313; Chee-Kit Looi, Wenli Chen, and Foo-Keong Ng, "Collaborative Activities Enabled by GroupScribbles (GS): An Exploratory Study of Learning Effectiveness," *Computers & Education* 54, no. 1 (2010): 14–26; Caroline Munoz and Ann Huser, "Experiential and Cooperative Learning: Using a Situation Analysis Project in Principles of Marketing," *Journal of Education for Business* 83, no. 4 (2008): 214–33; Calvin Smith and Debra Bath, "The Role of the Learning Community in the Development of Discipline Knowledge and Generic Graduate Outcomes," *Higher Education* 51, no. 2 (2006): 259–86.
45. "Teamwork Improves Learning and Career Success," American Society for Horticultural Science (2007), available online at <https://www.sciencedaily.com/releases/2007/11/071105095721.htm> [accessed 14 May 2017]
46. Yoshio Sugimoto, *An Introduction to Japanese Society* (Cambridge, UK: Cambridge University Press, 2014).
47. Yingqi Tang and Zhiping Xia, "A Study of Subject Service in Chinese Academic Libraries," CALA Occasional Paper Series 7 (2010): 1–6.
48. Hirofumi Hashimoto and Toshio Yamagishi, "Preference-expectation Reversal in the Ratings of Independent and Interdependent Individuals: A USA–Japan Comparison," *Asian Journal of Social Psychology* 18, no. 2 (2015): 115–23.
49. Li Zhang, "Communication in Academic Libraries: An East Asian Perspective," *Reference Services Review* 34, no. 1 (2006): 170.
50. P. Gregory et al., "Subject Librarian Contributions to Student Learning and Success," Project of Pius/ Medical Center Libraries Assessment Committee (2014), 1–41.

51. James W. Marcum, "The Library as Inquiry Learning System: Defining the Issues," *College & Undergraduate Libraries* 16, no. 4 (2009): 361.
52. Barbara Fister, "The Library's Role in Learning: Information Literacy Revisited," *Library Issues: Briefings for Faculty and Administrators* 33, no. 4 (2013).
53. Alice Harrison Bahr, *Future Teaching Roles for Academic Librarians* (Binghamton, NY: Haworth Press, 2000); Philippa Levy and Robert Petrusis, "How Do First-year University Students Experience Inquiry and Research, and What Are the Implications for the Practice of Inquiry-based Learning?" *Studies in Higher Education* 37, no. 1 (2012): 85–101; Kate Wenger, "Problem-based Learning and Information Literacy: A Natural Partnership," *Pennsylvania Libraries: Research & Practice* 2, no. 2 (2014): 142–54.
54. Marcum, "The Library as Inquiry Learning System," 359.
55. Fister, "The Library's Role in Learning."