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# TOWARD UNDERSTANDING INTERNATIONAL STUDENTS A STUDY CONDUCTED AT MIDDLE TENNESSEE STATE UNIVERSITY

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## Introduction

The number of international students in American universities has increased over the years and has drawn great attention from librarians, library staff, and researchers. In order to serve this particular patron group more effectively, a number of studies have been conducted to understand their difficulties in using American library systems. In consequence, different approaches have been taken to try to help them. As each university or college may have its own library instruction system, and as the composition and features of international students at different universities may vary, it is difficult to apply available strategies without a thorough understanding of a particular university's student information search behaviors and information needs. This study is designed to understand the current level of information competency skills of international students at Middle Tennessee State University (MTSU). The study focuses on their information needs from the perspective of user services, while determining if a new set of reference and library instruction strategies is needed.

The study was conducted using a questionnaire with answer choices for all but the last survey question, which sought student comments and suggestions. The questionnaire can be seen in the Appendix. The first part of this article provides a literature review and offers a brief introduction to MTSU international students. Details of the software and hardware requirements and a description of the survey process are given in the methodology section. The final section discusses data analysis and findings, followed by conclusions and further discussion.

## Background

According to the annual report from the Institute of International Education, more than fifty percent of America's international students come from Asia (Chin and Bhandari, 2008). In their home countries, college students depend highly on textbooks and class notes for homework and study, and to pass exams (Boers, 1994). In recent years, there has been significant change in the condition that "many libraries in Asia are small and have a high proportion of outdated titles" (Liestman, 1992). Nonetheless, libraries in those countries are still primarily places of study rather than information centers. Even more significant is the fact that libraries in some developing countries have closed stacks (Watkins, 1996). This has not only limited students' ability to conduct independent research, but has also widened the gap between students and librarians. The lack of professional staff in academic libraries is another issue in these countries (Bilal, 1990). It is not hard to understand, therefore, that international students may have difficulties in adapting to American library systems. These difficulties have been summarized as culture shock, the language barrier, and a lack in information search skills (Jiao, 1997).

In order to help international students cope with these difficulties, a number of solutions have been tried. Library orientation is one broadly adopted approach. A more intensive approach is to provide bibliographic instruction (BI) classes, preferably in students' native languages (Liestman and Wu, 1990; Spanfelner, 1991). While this is undoubtedly a good idea because it helps students gain quick familiarity with library resources, it is not particularly feasible as

librarians usually do not speak a number of those languages. Further, while it may be possible to find librarians to teach in the students' native language at universities where only a few countries are represented, it is very difficult to find that level of librarian expertise in universities where students come from many countries. To cope with the culture shock, it has been suggested that, where possible, international students be introduced to library staff members who come from different ethnic or cultural backgrounds (Helms, 1995). This is based on the idea that international students would like to turn to someone who can help them better express themselves. An alternative is to have an international student work as a facilitator or translator (Baron and Strout-Dapaz, 2001). Other suggestions include giving individual instruction sessions for international students (Watkins, 1996) and improving communication skills, such as avoiding "baby talk," speaking slowly, and avoiding repetition of the same sentences (Boers, 1994; Greenfield, 1989). With the many ideas presented, the problem is to determine how to relate them to international students' concerns in specific and variant university settings.

Surveys are one effective method to address these problems, and have been widely used in academic libraries. San Jose State University gave a survey to incoming international students to assess their library and computer experience prior to their arrival in the United States. The results suggested that international students would benefit from specialized library information competence and orientation programs (Jackson, 2005). A more thorough survey had been conducted earlier to identify international students' characteristics and their patterns of library use. Out of that earlier survey, course-integrated library instruction programs for undergraduates were recommended for the library (Allen, 1993). The author also conducted a survey of the graduate students in the Engineering School at The University of Iowa in 2005 to compare the information seeking behaviors of international and domestic students (Forys & Wang, 2005). The results indicated that international students used the Engineering

library more often, while domestic students were generally more familiar with their subject databases. This study continues the use of survey research methodology to examine the current level of information competency skills of MTSU's international students.

Located in the city of Murfreesboro, Tennessee, MTSU is a teaching university with an annual enrollment of over 20,000 students. Among them, over 200 are international students. Similar to the typical characteristics shown at many other universities, more than fifty percent of MTSU international students come from Asia, with China, India, South Korea, and Japan ranking as the top four, according to the statistics from the MTSU International Programs & Services Office (IPSO). However, unlike the trend at many other universities where science and engineering programs host the largest number of international students, every school at MTSU has attracted nearly the same number of international students, with the number in the Business school being slightly above the average. Among the international students, there is also a small number of exchange students, who study at MTSU for only one year and then return to their home countries to finish their degree programs. These exchange students are all in graduate programs with specific research projects to finish while at MTSU.

Every year, before the fall semester, the James E. Walker Library gives a short tour for new international students. This is led by IPSO. The fifteen- to twenty-minute tour provides a brief introduction to the library's services and facilities. It helps new international students to familiarize themselves with their new learning environment before classes begin; however, due to the short time limit, the tour cannot cover searching for information in specific subject areas. While first year and transfer students can attend regular information literacy classes by taking University 1010, University 2020 (for transfer students), and English 1010, the library does not offer information literacy programs for graduate students, unless such classes are requested by professors or graduate students schedule one-on-one research help.

Since most of the international students are enrolled in graduate programs and the library seldom sees any of them asking reference questions or requesting research help in real life, librarians wanted to know if they experience difficulties when using the library and if the current library services meet their information needs. Furthermore, librarians wanted to know if the students' information search behaviors differ from those of domestic students, who usually take information literacy classes in their undergraduate schools. User services librarians also wished to use the data collected in this study to determine if there were better services that could be provided for international students.

## Methodology

Because MTSU had no survey software available for the design of electronic surveys, this author decided to develop one. The form was written in HTML, with PHP code embedded to receive users' input. PHP is a general-purpose scripting language that is widely-accepted for web development. The received data was first stored in a MySQL database and then transferred to an Excel document for ease of further data analysis. MySQL is a popular open source database—stable, powerful, and easy to use. The combination of PHP and MySQL has been considered the best choice for web form development by many web developers for its ease of use, price point, and available software support. Since this survey only targeted international students at MTSU and was not expected to involve a huge amount of data, the author decided to use her own workstation as both the web server and also the database server. In this implementation, an APACHE server was used for web presentation. All three elements—APACHE, MySQL, and PHP environment—were installed at the same time, using the TOMCAT package. A dedicated computer server would have been used if the survey had involved a large amount of data. In libraries with APACHE and MySQL already installed on their computers, developers need only consider PHP programming. Design and completion of this survey were performed with no funding or external technical support;

therefore, a certain level of computer skills for server installation and programming were required.

When designing the survey questions, several factors were taken into consideration. First, the questions needed to be simple and concise. Students lose interest in finishing a survey with too many questions, meaning that each question in the survey had to be short and focused. Second, considering the particularity of the subject group with its challenges in understanding American English, particular attention needed to be paid to each sentence and word choice to ensure that the respondents would understand the questions. After the first draft was finished, suggestions and feedback from several user services librarians, including the team leaders in reference services and access services, were collected. A second draft was created to incorporate their suggestions.

As any survey related to human subjects requires approval from the MTSU Institutional Review Board (IRB), the author submitted a Request for Exemption along with a copy of the survey questions for IRB review. After receiving IRB approval, the author selected a voluntary new international student to take the pilot survey. This enabled the author to engage in a second check of the survey questions to ensure that they were clear and an estimate of the time it might take a respondent to finish the survey. The final step was to contact IPSO to request assistance in sending out an email notice to international students about the survey. The author sent an email and telephoned IPSO about this research. She also made an appointment with the IPSO director for further discussion about the purpose of the survey and its methodology. After securing IPSO approval, the author drafted an email notice with a link to the survey. This was sent by IPSO to MTSU international students.

## Results and Findings

The survey was distributed at the end of October, 2007 and was completed within three weeks. Thirty-six student responses were received and this represented about fifteen percent of MTSU's international student body at that time. Among

all the responses, sixty-five percent of the students had been in the United States for only one year or less. Approximately sixty-three percent of the respondents had enrolled in Master's programs, thirty-three percent were undergraduate students, and four percent were PhD students. The respondents were enrolled in thirteen different majors. About thirty-seven percent were from the Business school, and the rest were nearly evenly distributed among the schools of Basic and Applied Sciences, Educational and Behavioral Science, Liberal Arts, and Mass Communication. Among the respondents, more than fifty percent were from Asia, with China ranking first, followed by India and Japan.

There were fewer responses received than expected. One reason could have been the timing of the survey, which was distributed in the middle of the semester when students were busy with their midterms or research. With this concern in mind, any future survey might secure a higher percent return if a follow-up, reminder message is sent. Another challenge occurred when an unexpected power outage caused the author's server PC to shutdown during the first weekend after the survey was distributed. The inactive survey link might have contributed to the loss of some potential responses.

From the survey results, it was learned that international students used the library more frequently than had previously been understood. As shown in Figure 1, twenty-nine percent of the participants used the library every day, and nearly fifty percent of them used the library on a weekly basis. The rest visited the library a few times a month. Only one participant responded that s/he never used the library.

Since one goal was to learn whether international students are generally information literate, respondents were asked how often they used the library's online catalog and databases. The results are shown in Figure 1 and compared with the overall frequency of library usage. While only three percent of respondents said that they never use the library, the percentages of respondents who never use the catalog or databases are sixteen percent and twenty-three percent,

respectively. The relatively high numbers suggest that although some international students use books and journals in the library, more help may be needed on how to use the catalog and databases.

When asked their purpose for using the library (Figure 2), nearly sixty-five percent of the respondents came to find books and journals, over forty percent came to the Electronic Information Center in the reference room to use public computers, and about thirty-three percent used the library as a place to study. Since this question allowed multiple answers, a student might come to the library for both studying and printing class assignments. The data clearly show that the university library is functioning both as an important information resource center and as an attractive study place. Considering the spacious study rooms, comfortable seats, and student carrels on different floors, as well as the convenience of accessing the Internet and free printing, it is not surprising that the library attracts both international and domestic students.

Undoubtedly, librarians and library staff are pleased to have the above data; however, a further question arose. Although many international students come to the library to find books, do they really know how to find them? As shown in Figure 3, eighty-three percent of survey participants answered "yes." For the remaining seventeen percent, it can be surmised that a small number of international students may need more time to become familiar with the book classification system. The results also show that nineteen percent of the students knew how to locate books, but not journals. One reason is that more and more journals are available online, and the library is moving away from print journals. Another reason might be that some students, especially new international students, use journals less frequently than books and need time to acquaint themselves with the way print journals are organized.

Based on the idea that the most effective way to find out if students have gained enough information competency skills to meet their academic information needs is to check if they are aware of the essential databases in their

subject areas, the next survey question asked which database they had used most often. Several heavily used general databases (such as Academic Search Premier, General OneFile, Web of Science, etc.) were listed with a blank slot for them to write in a preferred subject database that might not be listed. It is interesting to note that Chemistry students were quite familiar with Web of Science—all of them chose this as their most frequently used database. Overall, thirty percent of respondents chose Academic Search Premier and twenty percent checked General OneFile (Figure 4). One reason that these two databases are so popular might be that they are placed in a prominent position on the library's information resource page; another reason could be that students might already be familiar with them from their studies in their home countries. Interestingly, although there are many information resources listed on the Business subject guide page, sixteen percent of business school students answered that they had "no idea." It could be concluded that the library's marketing strategies need to be improved for students in the Business School, and that there need to be library information classes targeted towards this group of students.

In replying to which style of library information seminar or workshop was preferred (Figure 5), over thirty-five percent of respondents replied that they prefer one-on-one research coaches while about twenty-three percent prefer class settings. Students appear to benefit most from one-on-one instruction. This result was slightly different from the analysis in an earlier article (Watkins, 1996), in which the author stated that international students preferred class setting instruction because they were shy and wanted to hide among a group of people. Perhaps today's international students are less shy than they were ten years ago.

In order to further understand international students' information search behaviors, librarians wanted to know what students would do when they could not find needed information in the library (Figure 6). Forty-five percent of them replied that they would turn to a reference librarian, and thirty-five percent would search in

Google. Other respondents chose the options of asking other students or requesting interlibrary loan. None of them chose to give up. From these results, many international students seem to know the proper channels to get help in the library; however, when asked what type of questions they had asked most frequently, forty-two percent replied that they had not asked questions in the library. Is this because they do not need help in finding information? Considering the high ratio of international students who do not know how to search databases, this is hardly likely. A possible reason that they do not ask questions is that they are not aware of the abundant information resources available. Among respondents who had asked questions, the most frequently asked question was how to find articles on a specific topic (see Figure 7). This actually reveals the same result as before, namely that quite a number of respondents did not know how to use or were not aware of the existence of article databases.

The survey asked whether respondents felt comfortable using the library's redesigned homepage (Figure 8). Fifty-five percent felt it was easy to use; about forty percent replied the opposite, but also stated that they could still find needed information given enough time; five percent felt the redesign was puzzling.

A request for suggestions or improvements closed the survey. The answers to this question reflect that the biggest concerns were the need for more new books and electronic journals, and extended library hours. Many respondents commented that they were satisfied with the services provided by librarians and library staff. This indicates that the language barrier discussed in an earlier study (Jiao, 2001) is not a barrier for MTSU international students in using the library.

## Conclusion and Further Discussion

This is the first electronic survey research on international students conducted by the MTSU university library. Although the number of respondents was not high, it still serves as a guide and a helpful tool toward understanding international students' information search behaviors and information needs.

The survey reveals that quite a few international students, especially new international students in the Business School, are not familiar with or not even aware of their subject information resources. A good library marketing plan is needed. In addition, liaison librarians could be more active in offering library instruction sessions to their subject students.

The survey results also show that international students prefer one-on-one library instruction to group or class instruction. In the MTSU library, graduate students can schedule one-on-one research sessions at any time during the semester; however, it is available to undergraduate students only for a few weeks throughout the semester. The survey indicates this instruction style deserves further implementation in the user services department, and that international students would specifically benefit from it.

Another finding of this study is that the previous summary of typical characteristics or difficulties experienced by international students in using American libraries may no longer be valid. This

survey shows that language is not a barrier for international students when using the MTSU library. It would be interesting to explore further how international students' difficulties in using American libraries have changed over years.

As the survey code is self-developed, it can be modified easily and used as a template for future library surveys. To ensure system stability and data security, a dedicated library server is recommended. This research was conducted to focus on user services to international students. A broader and more in-depth library study could be performed in the future to help librarians and library staff gain more understanding of services to international students in order to provide more effective services.

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