International Students within our Borders: Improving Information Literacy and Library Services for Graduate Engineering Students

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Introduction

This presentation reports on preliminary results of a sabbatical project on information literacy instruction and library support for international engineering students at California State University- Long Beach (CSULB). The ultimate long term goal of the research is to improve services for international students in general and engineering graduate students in particular. However, before this could be tackled, the author explored more general issues related to services to international students.

An extensive literature review was conducted to survey the historical context of providing library services to international students on US campuses and spotting trends for the way forward. There have been many political, economic and, of course, technological changes over the last twenty to thirty years and many of the generalizations customarily made about this special group of users no longer applies. So, it is time to re-calibrate our assumptions in the current context. In addition to reviewing published research, the presenter, offers personal insight having worked with international students on many campuses mostly in the area of engineering and science.

About CSULB

The city of Long Beach (population 462, 257 in 2010 census) is home to California State University, Long Beach (CSULB). The city is the seventh-largest in California and the second largest in LA County. The Port of Long Beach is second busiest container port in the United States and one of the world's largest shipping ports. CSULB, established in 1949, is a large, urban, comprehensive, mostly commuter university, at the southeastern most part of Los Angeles County and is located 3 miles (4.8 km) from the Pacific Ocean – hence its moniker “The Beach.” CSULB is as large as a small city with 32,686 students (Spring 2102), with nearly 2,000 faculty and 1,600 professional staff members. CSULB is a diverse campus with an undergraduate population that is almost 40% Latino/Latina, 27% Asian-American and 4 % African-American. In 2007 CSULB was one of 33 US colleges and universities designated as a Hispanic Serving Institution by the U.S. Department of Education and the only four-year institution in California to receive the Title V grant at that time.
CSU Long Beach, the second largest in the 23 campus California State University (CSU) system (the world’s largest university system), has become the most applied to campus in the system, receiving over 45,000 applications with a record low admit rate of 31.8% (highly impacted). CSULB offers degrees in all the major disciplines from business, engineering, nursing, sciences to the liberal arts. The university also enrolls one of the largest graduate student populations across the CSU and in the state of California (5148 students in 2012). In addition to Bachelors and Masters degrees, CSULB also offers doctoral degrees in Education, Engineering, Physical Therapy and Nursing. CSULB was named one of the nation’s “Best Value” public colleges by the Princeton Review, which teamed up with USA Today to present its list of the 150 (75 public and 75 private) “Best Value Colleges for 2013” and was ranked No. 4 in the West by U.S. News & World Report in its 2013 edition of “America’s Best Colleges Guide.” CSULB is also a favorite destination amongst public academic institutions for students from abroad and hosts students from 80 foreign countries.

The description above is based on information and data from the University’s home page http://www.csulb.edu, 2012 University Facts http://daf.csulb.edu/offices/univ_svcs/institutionalresearch/univfacts.html and http://en.wikipedia.org/wiki/California_State_University,_Long_Beach (retrieved on April 30, 2014)

The CSULB University Library, housed in one building, is a typical academic library supporting the mission of the university especially in terms of curricular and research needs of the students and faculty with a team of subject librarians (who have faculty status) and a dedicated support staff. At a time, that some libraries may notice a drop in gate counts, the opposite is true of the library at CSULB – it is a very busy, well-used intellectual hub of the university. All the subject librarians have active instructional programs and provide strong reference and research support to their faculty and students. In terms of numbers, the library has over one million volumes with a growing access to electronic books (over 267,000), online journals (82,000) and subscribes to 187 databases (based on information from http://daf.csulb.edu/offices/univ_svcs/institutionalresearch/univfacts.html)

Looking Back

The Institute of International Education (IIE), founded in 1919, is a testament to the fact that students from abroad are an important part of the higher education scene in the United States. IIE is one of the world's largest organizations dedicated to international education and in addition to providing research and training programs it also gathers statistics on international students in the US. According to their 2013 “Open Doors Data” (http://www.iie.org/Research-and-Publications/Open-Doors/Data) there was a 9.8% increase over the previous year in first time enrollment of international students in the US in Fall 2012. In 2012-13 the total international student body in the US increased to a record high of 819, 644 students - an increase of 7.2%. International students make up 3.9% of the total number of students in higher education in the United States with China, India and South Korea being the top three countries of origin.
The literature confirmed that there is a vast body of literature describing the general characteristics of the international student population in the United States, implementation of successful library programs and the importance of recognizing cultural differences. Rather than cite a lengthy list of references, this paper will refer to articles to illustrate certain topics. However, it is important to note the landmark publication “International Students and Academic Libraries: Initiatives for Success” (Jackson and Sullivan 2011) published by the American Library Association.

Below are the main themes that have been tackled in the professional library literature over the years:

**COMPUTER USAGE/LITERACY**

Given that the United States and other western countries, were more technologically forward than the rest of the world in the 1970s and 80s, the main challenge for academic librarians at that time, was training international students in computer technology before tackling research skills. This is no longer the case. A survey (Jackson 2005, 207) at San Jose State University to assess the library and computer experience of incoming international students:

…show that students from other countries have lessened the gap in their technical computer skills, and that their exposure to libraries far exceeds what was once evident in the library literature. Since technical computer skills no longer appear to be a barrier to successful library research for incoming international students, strong information competence programs for these students do not need to focus on computer literacy.

Also, anecdotally, it is clear that the average international student is much more computer savvy than he/she was 10-15 years ago. The “digital divide” is no longer the wide chasm that it used to be and international students are catching up (in many cases maybe even overtaking) the native US students and are comfortable with technology especially using the internet for social networking. Song and Lee’s (2012) more recent article further supports this observation: their survey revealed the high percentage of international business students (82 percent) who own smartphones at the University of Illinois.

According to the website “The Top Ten Countries With Most computers or PC users,” using data from the Computer Industry Almanac 2012, the list includes USA, China, Japan, Germany, India, the UK, Russia, France, Brazil and Italy [http://www.mapsofworld.com/world-top-ten/world-top-ten-personal-computers-users-map.html](http://www.mapsofworld.com/world-top-ten/world-top-ten-personal-computers-users-map.html) (retrieved on May 1, 2014).


In the case of engineering students (especially in electrical engineering and computer science), they have an even greater degree of computer competency than the average international student. In the case of CSULB, and most likely on other campuses as well, many graduate engineering students have worked in high-tech companies before starting their Master’s degree. Of course, this does not mean that international students are comfortable or even familiar
with using electronic resources for research assignments (a situation not unlike that which frequently exists with domestic students). Hughes’ (2010) study (a part of her doctoral thesis) on an Australian campus confirms this situation.

**RESEARCH LIBRARY/ANXIETY**

International students have many additional challenges when it comes to conducting research and writing papers compared to their US counterparts: language barriers, unsure of how to use library services, nervous of US academic standards and so on. There are still some libraries abroad where items are in “closed shelves” and have to be paged by the librarian. Writing research papers routinely (if at all) is not as common in other countries as it is in the United States. Therefore students usually use the library as a place to study rather than to conduct research. Hughes (2010) reporting the results of her open-ended interviews at two Australian universities, supports this premise with comments from international students who rarely needed to use the materials in the library in their home country to support their curriculum. So, it may not be unusual for international students to write their first major research paper in a language that is not their mother tongue on American soil. Given all these factors it is very understandable that there is a great deal of anxiety. There are many articles on research anxiety, particularly as it relates to international students. Collaborators Jiao and Onwuegbuzie have conducted a great deal of research in this area over the years and a select few of their articles are cited in the reference list (Jiao, Collins and Onwuegbuzie 2008; Jiao, Onwuegbuzie and Waytowich 2008; Onwuegbuzie and Jiao 1997).

Of course domestic students also experience research anxiety. As a case in point, recently, the whole spectrum of “research anxiety” was witnessed in the course of one working day! In the morning, a team of 5 students met nervously with the presenter about their ENGR 101 team paper. Their leader explained (although she did not need to) that as international students they were very nervous writing their first research paper on campus. By the end of the appointment there were smiles and expressions of gratitude all around! The presenter assured them that US students also experience research anxiety. And to prove the case, during the evening shift at the reference desk a domestic student was actually thinking of abandoning her degree program six months from graduation since she could not complete a challenging term paper! Needless to say, the student left the reference desk in a totally different frame of mind with a promise to contact the librarian when she completed her degree!

**CULTURAL ASPECTS**

As mentioned previously, there has always been an acknowledgment of and being mindful of cultural differences. But traditionally, less research has been conducted on identifying and categorizing those cultural differences of specific ethnic groups and the challenges they present for providing effective library services. Happily, there is a growing awareness in addressing these important issues as they impact international students on our campuses and this presentation highlights significant breakthroughs. As Zhou et al (2008, 63) point out

This is difficult enough when the newcomer is aware of the differences in advance, but even more difficult when the newcomer is unaware and falsely assumes that the new society operates like their home country. Newcomers easily become ‘lost in translation.”
Hodges (2013) (reporting on Furnham’s 1993 findings) describes “Cultural stress” leading to “culture fatigue” (a condition beyond language difficulties) that occurs when students first arrive on a foreign campus and is related to food, housing, transportation, forming friendships and fiscal concerns. For some students it may lessen over time but for some it never dissipates. International students must learn to cope with these emotions in order to be successful in their academic programs. Knowledge and understanding of this situation is crucial so that librarians can ascertain optimum time to offer orientation sessions to the library. Too early in their arrival on campus and the library is adding to the “cultural stress” and competing with vital issues such as opening a bank account; too late and students have already developed research habits that may be hard to correct. “Point of need” is always the best criteria but determining the “point of need” for this target population remains a continuing challenge for librarians.

The Association of College and Research Libraries (a division of the American Library Association) has recognized the importance of these issues and recently published the ACRL cultural competencies [http://www.ala.org/acrl/standards/diversity](http://www.ala.org/acrl/standards/diversity) (retrieved May 1, 2014).

Moving Forward

Now that we have a broad historical context of prior research and practice, what then is the way forward for academic libraries? Where shall we concentrate our energy and resources? What should be the main focus of library services for our globally connected, techno-savvy international students? This presentation is an attempt to answer these questions as well as a clarion call to colleagues to continue conducting research on their respective campuses to add to our collective knowledge.

Know Thy Students (better)!

We have a tendency to think of international students as one BIG homogenous group all having the same needs. Of course, there are some basic similarities, but there are also major differences. For instance a student from Europe or Canada would have some similar but also many different needs than students from the Middle East or India. “Know thy international student body” might be a good rallying cry! Scrutinizing data about international students on one’s campus is the first step and may reveal some interesting information that is not obvious from casual observations. Sackers, Secomb and Hulett (2008) went one step further in their article entitled “How well do you know your clients?: International Students’ Preferences for Learning about Library Services” and surveyed their international onshore students on their Australian campus. John Hickok (2011) of CSU-Fullerton really does know about the cultural contexts of his students since he makes annual visits overseas, mostly to Asia and sees firsthand the home libraries of his international students and has documented his lengthy case study of over 300 visits in “Knowing their Background First: Understanding Prior Library Experience of International Students.” Hickok is currently working on a book which will provide librarians essential information working with international students from Asia. William Badke’s (2011) chapter “Addressing Deeper Issues of Information Literacy in Graduate International Students: A
Korean Student Case study,” provides us an excellent overview of the Korean educational system with its traditional roots in Confucianism. He shows how these traits conflict with the Canadian (Western) educational system. Badke’s (2011) chapter should be read by all librarians working with international graduate students, for inspiration, as he documents in detail how he worked diligently over a decade to improve the research skills of Korean students at his institution. He states that the biggest challenge in turning the students into researchers on the Western model was largely due to the differences in educational philosophy.

At the very least ALL of us should make sure that we have as much data as possible about international students on our campus – the results may surprise you! Data for “top ten” countries of origin of CSULB international student enrollment from 2010-2013 is presented below in Figure 1 and 2. The presenter had assumed that students from India were the largest group on campus and she was mistaken!

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Mexico</td>
<td>18</td>
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<tr>
<td>Korea</td>
<td>12</td>
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<tr>
<td>India</td>
<td>10</td>
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<tr>
<td>China</td>
<td>7</td>
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<tr>
<td>Japan</td>
<td>7</td>
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<tr>
<td>Saudi Arabia</td>
<td>6</td>
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<tr>
<td>Vietnam</td>
<td>5</td>
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<tr>
<td>Taiwan</td>
<td>3</td>
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<tr>
<td>Philippines</td>
<td>2</td>
</tr>
<tr>
<td>UAE</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>71</strong></td>
</tr>
</tbody>
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Figure 2: Break down of the top ten countries as percentages
Figure 3 below is a breakdown of the nationalities of the graduate student body in the College of Engineering (COE) – students from India form the largest group. This confirmed the observations of the presenter (the engineering librarian).

Further analysis of the data reveals that almost all the graduate international students are either in electrical engineering or computer science. However, one surprising fact was revealed: that there is a fairly large number of international students in the undergraduate engineering program but with no clear cut winner in terms of country of origin. In this case, mechanical engineering is the most popular major. This is an important fact to take into account in the design of library instruction sessions for undergraduates especially in terms of addressing such issues as academic scholarship.

**Communication Patterns**

As mentioned previously, we need to delve deeper into cultural differences. One of the ways to do this is to study communication patterns of different ethnic groups and how it can be applied to library services. The well-cited article (cited 27 times in Google Scholar) by Li Zhang (2006) entitled “Communication in academic libraries: an East Asian perspective,” provided the “Aha” moment. Zhang’s article not only provides an excellent review of the research up to 2006, but also examines cultural-specific communication and behavioral styles. East Asia is defined as China, Japan, Korea, Hong Kong, and Taiwan. The central topic of this article is the concept of
“High-context” and “Low-context” culture and its influence on communication styles. The anthropologist Edward T Hall presented these terms in his seminal work “Beyond Culture” (1976). The concepts have become accepted terms in sociolinguistics used by researchers and practitioners (especially in business) to understand and explain the powerful effect culture has on communication styles. For example here is an example from the College of Marin’s Business Communication class http://www.marin.edu/buscom/index_files/Page605.htm (retrieved May 1, 2014).

Zhang (2006, 167-168) synthesizes the research for us on this topic as follows:

In a low-context culture like the USA (Gudykunst et al.,1996), communication is conducted in clear and explicit messages; it is the speaker who is responsible for effective communication to occur (Lane 2002). In highly contextual cultures, such as East Asian countries (Gudykunst et al.,1996), communication does not require clear verbal articulation and makes significant use of implied meanings. The listener is responsible for understanding communication (Lane 2002). This high-context communication style stems largely from the influence of Confucianism, which emphasizes consideration for others, prevention of embarrassment or disagreement between communicators, and preservation of one another’s face.

East Asian international students from high-context culture may operate on dramatically different sets of assumptions and expectations when interacting with librarians who come from low-context culture. With two parties employing conflicting communication norms and rules, a simple message can be misinterpreted, misunderstood, or can even cause negative attitudes.

Herein lays the problem! It would follow then that reference librarians need to take this into account in any interaction at the reference desk and beyond on a US or any Western campus and employ superior “listening and observational skills when interacting with individuals from a high context culture” as suggested by Dr. Sangeeta Gupta in the “A Quick Guide to Cultural Competency” http://www.guptaconsulting.com/docs/CrossCulturalSamplePage.pdf (retrieved on May 1, 2014).

Students may simply nod “yes” suggesting that they understood the interaction at the reference desk when in fact they may not have. Zhang (2006, 168) describes it thus:

The student’s behavior is one example of high context communication. According to the student, politeness and face maintenance take precedence over honesty and the task at hand. By indicating he understands, the student believes that he has kept positive images for both persons, that is, on the one hand, he can understand the librarian; on the other hand, the librarian’s instruction is effective. The Western librarian, however, would think she has helped the student with his question, since he did not state that he was unclear about her answer.

On the other hand, a western student, consulting a western librarian, would simply state that they do not understand what the reference librarian is explaining – without any hint of disrespectful behavior on either side. Liu and Winn’s (2009) research at the University of Windsor provides us further insights into high and low context communication patterns and how they effect a student’s interaction with library services.
Given the diverse and global world we live in, future librarians learning about reference interview techniques should be instructed in high-context and low-context communication styles. Perhaps librarians should collaborate with ESL faculty in developing effective training programs not only for librarians but also for library staff?

Zhang (2006) was naturally concentrating on in-person communication. However, in-person reference has now been augmented (if not completely replaced in some cases) by virtual reference services. Virtual reference services offer many advantages to the smartphone carrying, digitally-savvy international students. Often international students’ written skills are better than their spoken skills and communicating electronically lessens their anxiety over pronunciation and accent. Perhaps asking a question via email or a virtual service can maintain the “face” of both parties? So it is with interest that one turns to Tammi Owens’ (2014) thought-provoking and topical article, entitled “Communication, Face Saving, and Anxiety at an American Library’s Virtual Reference Service” which is an analysis of the transcripts from a virtual reference service. The researcher categorized the reference transactions and analyzed them for “evidence of deflection, deference and rapport building to determine if face-saving communication by librarians appeared to lower patrons’ stress and anxiety levels during the course of the virtual reference transaction.” The research shows that in fact librarians, instinctively, use appropriate language to lessen patrons’ anxiety even in the virtual environment. A follow-up study building on Owens’ ground-breaking work to study interaction of international students in virtual reference services would be insightful.

Thinking Patterns

An analysis of “thinking patterns” offers more clues. People from low-context (western) cultures generally utilize analytic thinking strategies by using linear logic and express their thoughts in a more straightforward manner. In contrast, high-context culture countries, such as China, Japan, and Korea, generally use “synthetic thinking patterns, which focus on a unified whole and leads to a more circular logic” (Gudykunst 2004). How might this manifest itself in interactions with librarians? East Asian students may start with a general description of their research before they get to their specific questions whereas Western students tend to go from the specific point first and then present related subtopics. Being aware of the different thought processes will help librarians in their “reference interview” and instruction. Zhang (2006, 169) states:

East Asian thinking patterns are characterized by a circular or roundabout pattern. Their expressive form of language is guided by meaning and context; “there is no explicit linear or logical order between sentences, such as order of time and space, and no direct connections between secondary ideas and the main topic.

These insights may help public service librarians and instructors in their interactions with international students to refine in-person services such as reference and instruction.
**Individualism vs. Collectivism**

“Individualism” with its emphasis on the individual’s responsibilities and achievements is promoted and valued in Western cultures but East Asian cultures are characterized by group-oriented/collectivistic cultures placing a higher emphasis on the needs and goals of a group rather than the individual. Again, Zhang (2006, 170) suggests:

A librarian from an individualistic culture, for example, tends to value explicit or direct verbal interactions, use a linear pattern of thinking, and show his or her personal emotions overtly. The librarian emphasizes clarity because he or she is more concerned with self-effectiveness and self-efficiency. On the other hand, East Asian international students of collectivistic cultural backgrounds are inclined to the use of implicit or indirect verbal interactions along with nonverbal cues; their emotional expressions are restrained. According to the viewpoint of collectivistic cultures, being too direct can put individuals at the risk of hurting the feelings of others by using improper words or displaying emotions inappropriately (Ting-Toomey 1991; Triandis 1995).

Zhang (2006) suggest that these characteristics prevent students from drawing attention to themselves in a class for fear of debating or confronting other students (or the instructor) and would prefer practicing search skills in small groups and help each other learn. Zhang offers thoughts on how to implement library programs that will take account of these important cultural differences. Liu and Winn (2009, 569) illustrate this with an excellent example:

In addition, researchers found that many students tended to solve problems by themselves rather than asking for help. For example, two students complained that they had trouble logging into the Inter-Library Loan (ILL) online page on the library website. One tried a couple of times and had never been able to complete the process. The other participant did not understand what username or password he should use. In the end, both of them gave up and were never successful using the service. When asked if they had requested assistance from friends, librarians or library staff, they all answered no and the reason was always “I don't want to bother others”. Although this finding may seem to contradict what one would expect from individuals raised in a collective culture, they do not because group goals are more important than individual goals. As a result, in a relation-oriented culture like China's, people tend to avoid disturbing others in order to maintain a harmonious and courteous relationship, which is a major group goal.

Even having some rudimentary knowledge, being aware and sensitive to these three issues: communication styles, thinking patterns and individualism versus collectivism will prepare librarians better to work with their international students. A more thorough research about particular ethnic groups will further our outstanding and help us to improve services for these target groups.
Academic Scholarship

Just as lack of computer skills was the “hot button” issue 30 years ago, “academic scholarship” (covering research ethics, research skills, information literacy, citation styles, plagiarism etc.) appears to be the central issue now in provision of library services to international students today. The umbrella term “Academic scholarship” with its central focus on “academic integrity” places the issue in a more positive light than the term “plagiarism” with its punitive aspects. Online and computer literacy of students, an important skill, is also in some ways a disadvantage since it is very tempting and easy to “copy/paste” text into a Word document. Add to the mix the fact that dissertations and theses (for example) are more visible than ever before (in contrast to being shelved on dusty library shelves) and one can see that it is very important to develop and adhere to the highest standards of scholarship.

Academic Integrity (Plagiarism)

The concept of plagiarism, or to use the less negatively charged term “attribution of sources,” is essentially a western academic norm. Educators overseas pay less attention to this (Jackson 2005). Duff, Rogers and Harris (2006) provide the historical and cultural context to something that we take for granted every day in the western Academy tracing it back to the earliest copyright legislation of the Act of Anne, 1709 and it is from these euro-centric underpinnings “that we impose copyright laws, moral authorship rights and plagiarism policies at Western universities” and clearly euro-centricty cannot be applied across all knowledge systems and cultures. Duff, Rogers and Harris (2006) report on a case study at an Australian university where “inadvertent plagiarism - that is plagiarism that occurs unknowingly” was a problem among international engineering students. Teaching faculty assumed that students must be aware of standards of academic integrity but they were unaware of the complex cross-cultural nature of the problem. This supports Sutherland-Smith’s (2005) views that plagiarism is like a “Pandora’s box” and academics’ reluctance to discuss these issues leads to “untenable” situations that instructors have to face and also makes it impossible to apply campus policies fairly.

However, on the positive front, Duff, Rogers and Harris (2006) report, that once teaching methodologies were adjusted and western standards of scholarship were made explicitly clear and students participated in a series of workshops, the incidence of plagiarism was reduced from 50% to consistently less than 5%. Duff, Rogers and Harris (2006) show how the Eurocentric educator is unconsciously steeped in the western tradition of scholarship and must step out of it to understand the challenges faced by international students.

Could the western standards of scholarship be connected to the directness of “low context” cultures? In some cultures, (mostly Asian) it is considered respectful to copy a scholar’s (Master’s) work without giving credit. So, students may not cite a well-known scholar on the basis that it is implicit in their paper (everyone knows who they are talking about) and could this also be connected to the characteristics of high-context cultures? In this case it is the reader’s responsibility to know the significant work to which the writer is referring.
Unless instructed, grave misconceptions abound amongst international students on the standards of academic scholarship in the United States. An international engineering student at CSULB actually thought that one way to avoid plagiarism is to NOT research the topic at all so that he would not plagiarize by accident. Of course, I explained that you are not only expected but also required to research the topic quoting from or paraphrasing relevant articles as well as giving your own opinions bolstered by evidence. It is a delicate balance that takes much practice which domestic students, hopefully, have mastered in their bachelors program and international graduate students have to learn very quickly. It is also important to know what does not have to be cited. Some simple contrasting examples will clarify: everyone knows the date that President Abraham Lincoln died and everyone knows the boiling point and freezing point of water. These are well-established facts that do not need to be cited.

**Contrasting Educational Systems**

Generally speaking, as many studies (for instance Badke 2011) have pointed out, non-western educational systems are largely based on rote-learning, memorization, examinations and less (or not at all) on writing research papers. In the case of engineering programs they are even more dependent on problem-solving, exams and lab work. (As an aside, US engineering programs at the Bachelors level in particular, also have traditionally followed this pattern although this is changing with the main accreditation body, ABET, requiring undergraduate engineering students to be more “rounded” and acquiring “soft skills” as they enter the global arena). For the reasons stated, international students are more likely to unintentially or inadvertently fail to attribute sources than domestic engineering students since they have had less opportunity to conduct research and write term papers when they arrive in the US.

**High Stakes Education**

The stakes are extremely high for international students who plagiarize – inadvertently or not. Almost all US academic institutions have strict “academic integrity” policies. As Hodges (2013, 202) succinctly points out

International students are beholden to the federal regulations for their student visas, which stipulate that international students maintain responsible behavior. This behavior includes developing research ethics and academic integrity. Adjudication resulting in expulsion because of plagiarism results in revocation of a student visa.

Visas are not transferrable to another institution which means that the student has to return home in shame with extreme “loss of face.” The student would then have to apply again to another institution and hope that the authorities will look favorably on their application and issue another visa for a different institution. There could be even longer term consequences. Supposing the student decides to abandon his/her study in the US for the time being and later applies for an H1 visa to work in the US, questions may arise about why they did not finish their degree. Suffice to say that international students face a lot of pressures and stand to lose a lot.
Hodges (2013) continues with his analysis and makes some very interesting observations. Our export of “Western based grooming of scholarly communication practices” will not reach back to the home cultures of the international students if they cannot complete their degrees. It is these students, often the cream of the crop, in their home countries, who will influence scholarship there through Academe and industry. And given the international nature of research and the publishing industry (for instance scholarly journals), it is very important that we teach our international students well so they can complete their degrees, advance in their careers, adhering to the highest standards of scholarship, add to the research output of their home institutions or of course to the United States.

How Can We Help?

Traditionally, librarians and faculty tell students to be careful not to plagiarize but we are all struggling to provide adequate programs and tools to teach the process. I was pleasantly surprised that my research revealed that many librarians and educators are addressing this issue. Noteworthy is the work of Chen and Van Ullen (2011) who have developed plagiarism workshops. Two leading engineering librarians come to mind who have addressed the issues on their respective campuses: Edward Eckel (2010), of Western Michigan University, has done some exceptional research on plagiarism, patchwriting and text appropriation (or misappropriation) by engineering graduate students especially as it relates to their dissertation and theses and Amy Buhler and her collaborators at the University of Florida who have used gaming technology to teach students research ethics (Leonard et al 2013).

At CSULB, a quiz with a supporting Libguides has been created that is given to all freshmen engineering students in ENGR 101 (a mandatory freshmen course). Since it is now clear that there are a large number of international students in the undergraduate program it is heartening to know that they receive this important training. Perhaps something similar should be developed for graduate students? The most challenging issue at CULB, and perhaps elsewhere, is how to implement a program on academic scholarship that targets all incoming international graduate students in engineering. At CSULB there is no mandatory class that all graduate students in engineering have to complete. It is “hit or miss” whether the student gets instruction depending on whether the instructor requests library instruction. Ideally, a specially designed course should be taken towards the beginning of the program. One immediate solution is to offer “drop-in” workshops – especially at the beginning of the academic year (after the students have settled in), during intersession, spring break and summer. A session where students can learn all the basics of research ethics and skills over (at least) two sessions. Perhaps a mandatory online course (with credit would be ideal) is another solution but this will certainly take some efforts to maneuver through the curricular committees. In fact an online program, would have the added advantage that students could possibly take the course at their pace but hopefully before the end of their first semester.

As in many things we do, having a faculty “champion” is most helpful; the graduate coordinator of the computer engineering and computer science (CECS) program has been urging the engineering librarian to develop a program for some time. A pilot program in the summer – something akin to a “bootcamp” for incoming graduate students is a possibility.
Case Study: India

Given that a majority of the international students in the graduate program at CSULB are from India, I decided to study this group to ascertain how much library instruction a typical undergraduate student in engineering may have received in India?

I did an extensive literature review so I could spot trends. What follows is a very brief report on my findings. Twenty years ago library instruction was hardly mentioned by Indian researchers. However the trend is changing. Academic librarians in India generally provide library orientations and tours at the beginning of the semester to acquaint students with information on location of materials and basic information on computer usage. Karisiddappa’s (2008) article reporting on a survey of information literacy programs at 23 higher education and research institutions showed a growing interest in India of implementing IL programs. Of particular interest is a study of IL programs in nine engineering colleges in Mumbai by Pattar and Kanamadi (2010) focusing on the content and delivery of the programs. Kadli’s 2010 article on internet usage could easily have been about US students. Kadli reports that there was a high awareness of the benefits of the Internet amongst students but they are not sure of its “completeness.” The Internet is again leveling the field and bringing librarians from the US and overseas together in terms of common concerns.

So, one could take an educated guess that international graduate students from India have only received rudimentary library orientation and/or a tour at the beginning of the semester during their undergraduate program. So, it may be quite puzzling to students when they are required to attend “course-integrated library instruction” with the engineering librarian. Reaching out to engineering librarians in India would be one way forward to supplement research as well as meeting with them at conferences. Of course there is no substitute for visiting academic libraries in India to gain firsthand experience as Hickok (2011) (and maybe others) have done. One piece of data that would be useful is not available at CSULB: the name of the institutions where the students did their bachelors degree. With that information one would be able to review the home page of the library and perhaps contact individual librarians.

Conversations with engineering students from India have provided further insights. Puzzled by their disappointment that multiple copies of their textbooks are not available in the CSULB library, it was ascertained that most colleges in India provide this service. If there are 30 students in a class, 30 copies are available to be borrowed for the duration of the semester. How can Indian colleges purchase so many copies of expensive engineering text books? Because publishers make international editions available at a fraction of the cost! In most cases, students in India only use the library as a place of study and not to conduct research.

Conclusions

Given the pervasiveness of the international student body at American universities, all academic librarians would benefit from a formal workshop (if one is available) or independently study the characteristics of this significant group on campus. Steeped as we are in our euro-
centric tradition, we cannot assume that everyone knows and understands western standards of scholarship. Even some rudimentary knowledge of different communication patterns, thinking patterns, such cultural issues as individualism versus collectivism will make us more sensitive to our international clients. No matter how “high tech” we become there continues to be a need for the human touch when it comes to providing basic services in libraries of any type. Although, this is a case study on an academic campus, the ideas presented are of importance to all librarians since we all work in a diverse and global environment.

So, hopefully, this presentation will offer some strategies to implement on your campus or in your company:

- Be aware and incorporate some of these ideas (such as individualism vs collectivism) in designing training sessions
- Team up with other stakeholders on campus or in your company (e.g. writing center) to provide programs
- Reach out to English as Second Language (ESL) and linguistics experts and instructors to further your understanding of different cultures
- Develop professional development programs for librarians and library staff
- Survey the state of IL instruction in other countries
- Seek out and network with librarians from abroad

And in doing so, hopefully, you will all publish your findings so that we can collectively gain from your experience.

**Endnotes**


