Call for Manuscripts

An interdisciplinary, peer reviewed publication, *Journal of International Students* (Print ISSN 2162-3104 & Online ISSN 2166-3750) is a professional journal that publishes narrative, theoretical and empirically-based research articles, student reflections, and book reviews relevant to international students and their cross-cultural experiences and understanding.

Published quarterly, the Journal encourages the submission of manuscripts from around the world, and from a wide range of academic fields, including comparative education, international education, student affairs, linguistics, psychology, religion, sociology, business, social work, philosophy, and culture studies. The Journal audience includes international and domestic students, faculty, administrators, and educators engaged in research and practice in international students in colleges and universities.

a) **Peer-reviewed Article** - includes manuscripts that focus on the interpretation, implication, or significance of research work related to international students and scholars from various disciplines (between 4,500 to 7,500 words).

b) **Study Abroad/Reflection** - includes descriptions and perceptions from students and scholars concerning another culture, language, people and society from an insider or outsider perspective. Reflections are the building blocks of research papers and offer original points of view on the issues and concerns related to sojourns (between 1,000 to 2,500 words).

c) **Book Review** - includes reviews and critiques of the written work of scholars from a number of disciplines related to international students (between 750 to 1,200 words).

Please e-mail your manuscript to the Editor, krishna.bista@gmail.com. Include your full address with email and telephone number. Follow APA 6th edition in your citation and references. Double space. Times New Roman with 12 font size.

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Editorial Board: http://jistudents.org/board/
In Memory of

Dr. Rolf F. Hotlz
Associate Editor (2011-2013)
Journal of International Students
WELCOME!

We are pleased to welcome you to our Spring 2014 edition of the Journal of International Students!

This edition of the Journal includes a variety of topics related to student mobility (international students, exchange students and study abroad students), cross-cultural experiences, and teaching and learning practices in higher education in the United States and around the world. In this volume, 15 authors, who represented 12 institutions of higher education, have shared their perspectives and research findings (both quantitative and qualitative) based on their experiences in Argentina, Australia, China, South Korea and the United States. Each article is rich in terms of cross cultural perspectives of mobile students, their learning experiences, and campus diversity.

We believe that educators, policy makers, administrators, teachers, students and individuals interested in mobile student affairs, studying abroad, cross-cultural studies and international education from across the globe can take advantage of reading the articles published in this volume!

Some updates:

Publication Frequency: Quarterly (Spring, Summer, Fall & Winter) from 2014
Editorial Board: Includes 85 published authors as editors, assistant editors, and review board members from various institutions across the globe
Readers/Visitors: United States (39.55%); United Kingdom (23.07 %); Australia (17.48%); Canada (14.68%); India (10.92%); Russian Federation (10.10%); Malaysia (9.72%); Germany, Philippines, Republic of Korea, Netherlands (about 4.5%); New Zealand, Indonesia, Vietnam, Spain, Ireland and Nepal (about 2.5 %) out of 67,000.

As in our previous volume, this current edition also includes a wide variety of articles written by faculty members and doctoral students from various institutions and countries. Altogether, we believe that scholarly articles of this volume from various disciplines will contribute positively to the field of international student studies. As in the past, we have continued our tradition of sharing free digital copies and print copies with students, faculty members and libraries in the United States and abroad.

Finally, we would like to thank the reviewers, copy editors, assistant editors, and editors for their voluntary contributions to the Journal.

Happy reading!

Krishna Bista, Founder/Editor-in-Chief
Journal of International Students
University of Louisiana at Monroe
Home Away from Home: International Students and their Identity-Based Social Networks in Australia

Catherine Gomes, PhD
RMIT University (Australia)

Marsha Berry, PhD,
RMIT University (Australia)

Basil Alzougool, PhD
University of Melbourne (Australia)

Shanton Chang, PhD
University of Melbourne (Australia)

Abstract

This paper explores the role of identity in helping international students form social networks at an Australian institution and how these networks contribute to creating a sense of home away. The findings suggest that international students form distinct social networks that are not necessarily solely made up of fellow students from their home countries. Rather, international students form a mixture of social networks that are based on the complex individual identities of each student centred on a variety of common factors, such as: course of study, place of work, neighbourhood, culture, religion and personal interests (hobbies). Hence many students are part of social groups that consist of international students from their specific region and beyond, as well as local (Anglo and non-Anglo) students. These locally based social networks complement existing home-based networks which are maintained virtually through social media to create a home away from home.

Keywords: International Students, social networks, identities, Australia

In 2011 Australia welcomed 332,700 international students, yet little is known about how their complex identities influence the social networks they make in order to negotiate everyday life in their overseas host nation. Emerging studies (Gray, Chang & Kennedy, 2010; Sawir, 2008; Kashima & Loh, 2006) are showing that international students in Australia create identities and social networks that are tied to the host nation while studying. As transient migrants, international students may have neither a singular national home-based identity, nor social networks exclusively connected to the home nation. Many transient migrants have multiple identities (Appadurai, 1996), and identity, rather than place-of-birth-based social networks dominate their sojourn in Australia. A study that includes identity-based social networks is crucial as we do not fully understand the different forms of social and cultural identities which transient migrants possess. By identity, this paper adopts Anthony Giddens’ (1991) understanding of the term to mean a process of continuous individual development, which takes place on a daily basis. Identity thus is not static but complex and developing. According to Giddens (1991), postmodernity poses the challenge for individuals to
create their own identities. He notes: “What to do? How to act? Who to be? These are focal questions for everyone living in circumstances of late modernity - and ones which, on some level or another, all of us answer, either discursively or through day-to-day social behaviour” (Giddens, 1991, p. 70). Furthermore, identity is influenced by an individual’s interactions with others in their surroundings. Giddens (1991, p.54) explains that a “person's identity is not to be found in behaviour, nor - important though this is - in the reactions of others, but in the capacity to keep a particular narrative going. The individual's biography, if she is to maintain regular interaction with others in the day-to-day world, cannot be wholly fictive. It must continually integrate events which occur in the external world, and sort them into the ongoing 'story' about the self”’. Thus identity is individualised and continuously evolving primarily because of the postmodern condition of globalisation. This paper adopts Giddens’ notion of identity as being both individual yet complex due to everyday encounters with others. The implications of Gidden’s notion of identity provide a way of exploring the role of the shifting layers of the identities of international students that are the results of their new experiences through social networks in their adopted country.

### Challenges with Being Away from Home

Li and Gasser (2005) examined whether contact with individuals from the host country, ethnic identity, and cross-cultural self-efficacy of Asian international students predicts their sociocultural adjustment. The researchers found that contact with the individuals from the host country partially mediated the effect of cross-cultural self-efficacy on sociocultural adjustment. However, contact with the hosts did not mediate the effect of ethnic identity on sociocultural adjustment. Brown and Holloway (2008) investigated the initial stage of the international sojourn at a university in the South of England. They found that the initial stage of the sojourn was not characterised by feelings of excitement. Students were overwhelmed by negative psychological and emotional symptoms more commonly associated with culture shock (Ward et al., 2001; Ryan, 2005; Brown and Holloway, 2008). Khawaja and Dempsey (2008) compared international and domestic students enrolled at a large Australian university based in a capital city on variables such as accommodation, financial satisfaction, social support, mismatched expectations, academic stress, dysfunctional coping, and psychological distress. Results demonstrate that in comparison to domestic students, international students had less social support, used more dysfunctional coping strategies and had greater incongruence between their expectations and experiences of university life.

Zhang and Goodson (2011) systematically reviewed 64 studies published in peer-reviewed journals between January 1990 and January 2009 to identify predictors of psychosocial adjustment of international undergraduate and graduate students in the United States. They found that the most frequently reported predictors included: stress, social support, English language proficiency, region/country of origin, length of residence in the United States, acculturation, social interaction with Americans, self-efficacy, gender, and personality. The literature also has some suggestions for solutions to these challenges including adequate orientation (e.g. Mckinlay, Pattison and Gross, 1996) and transition support services (e.g. Kudo and Simkin, 2003; Velliaris and Warner, 2009) and also the formation of same-culture networks (Sawir, 2008).

### Social Networks of International Students

There have been debates about the importance of social networks of international students in host countries. Data from 200 intensive interviews with international students in Sawir’s (2008) study revealed that two-thirds of participants experienced problems of loneliness and/or isolation, especially in the early months. Sawir identified three kinds of loneliness experienced by international students: (i) personal loneliness because of the loss of contact with families; (ii) social loneliness because of the loss of networks and (iii) cultural loneliness, triggered by the absence of the preferred cultural and/or linguistic environment. While Sawir (2008) maintained the importance
Russell et al. (2010) also identified three patterns of adaptation among a sample of 979 international students attending a large metropolitan university in Melbourne. The first group of students (58.8%) were considered “positive and connected” – meaning that this group of students felt more connected to Melbourne and had less cultural and psychological stress in general. They were also generally happy with their financial state, health, and academic progress. The second group of students (34.4%) were considered “unconnected and stressed”–meaning they were socially isolated and reported highest levels of stress generally about their financial situation, their lifestyle balance, and their academic progress. Finally, the “distressed and risk-taking” group (6.7%) were also socially isolated and reported high levels of stress, and depression. They were involved in risk-taking behaviours such as involvement in drugs, gambling, unsafe sexual practices, and self-harm.

In addition, Arkoudis et al. (2012) indicated strategies for enhancing domestic-international student engagement. This suggests that social networks in host countries can be multi-dimensional. Therefore social networks (whether same or mixed culture) is a complex phenomenon but it’s unclear the impact of these networks on the identities of international students and vice versa. The next section explores some of the complexities of the potential relationships between social networks and identities.

The Relationship between Social Networks and Identities

International students may not have a singular national home-based identity or participate in social networks exclusively connected to their home nation. Due to their transnational migration many international students have multiple social identities which are based on their encounters with others as noted by Giddens (1991) and identity-based social networks. These are based not solely on the place of their birth but also on the following factors: heritage connected to the broad categories of race, ethnic culture, national culture and religion; gender, and general interests such as hobbies. Moreover, because international students in Australia often have the intention of successfully converting their residential status to permanent (Robertson, 2011), they have a vested interest in fostering stronger links to their host nation. Emerging studies (e.g. Sawir, 2008; Kashima & Loh 2006) have shown that international students in Australia create social identities and networks that are tied to the adopted nation while studying. Consequently, they find the transition back to their homeland challenging.

Individual and group identities have become increasingly challenging to define or recognise because of the circulation of people, ideas and cultures. This globalization is facilitated by the spread of communication and media technologies. Arjun Appadurai (1996, pp. 30) notes that the global cultural flow and circulation of people, finances, technologies, media and ideas have created new collectives and thus identities. However, new collectives are unique as they become, what Benedict Anderson (1983) calls “imagined communities”, which exist outside their geographical and national boundaries. In his work on nationalism, Anderson explains that his understanding of the nation is complex, as it departs from ideas of colonial struggles into something else in this modern era. He further explains that ideas of nation (nationalism, nation-ness) are still informed and complicated by events in history, geography, regional politics (political proximity), migration, and demographics (historical events and geography). He notes that in light of globalization, nations are now not limited to physically confined spaces but can instead be entities of imagined political communities that are ‘both inherently limited and sovereign’. (1991, p. 224). While Anderson specifically looked at how communities maintained their national and cultural identities outside
Anderson and others such as Stuart Hall (1973; 1992), Frederick Jameson (1991), Rey Chow (1993), Homi Bhabha (1994) and Ien Ang (1985; 2001), in their eclectic work on society and culture have in many ways attempted to make sense of the subject of identity by investigating and unpacking collectives, their lifestyles and their products - including art, literature, architecture, and the media. The media, in particular, has become an expanding focus for enquiry within the academy with branches examining different forms (entertainment, news and social media) and platforms, which can be corporeal (e.g. films screened in cinemas, television programs, dvds, memory sticks) and virtual. The rise of direct user engagement with media such as comments on news and online forums has provided consumers with unprecedented broadcasting power. These researchers (Hall, 1993; Jameson, 1991; Chow, 1993; Bhabha, 1994 and Ang, 2001) have theorised the social and cultural identities of different collectives that are defined by, become part of, and have emerged from national and transnational boundaries. Their invaluable research has uncovered the role of (shifting) identities in questions concerning individual and group determinants, as well as identifiers of belonging, identification, self-description and representation.

Drawing on Pierre Bourdieu’s (1994) notion of *habitus* where cultural production is based not only on the individual’s everyday experiences but on their self-interest, and Anthony Giddens’ (1991) proposition that an individual’s identity is not merely based on past experience, this paper explores the maintenance, formation and rediscovery of identities and social networks as dynamic, ongoing mechanisms that have function and purpose.

Even though international students may be transient for now, their individual identities and social networks exist for future purposes and are possibly intrinsically linked to the adopted nation yet still are connected to identities and social networks of past and ongoing experiences. Such a complex situation enables a multitude of bridges that connect the international student as transient migrant to their host nation, homeland and possibly beyond to constructs such as race, ethnic culture, national culture, religion, gender and general interests.

Increasing work in the broader area of migrants and the media (e.g., Hjorth & Arnold, 2011) have shown that digital technology allows migrants to remain connected to their home cultures and societies by creating virtual social networks and by providing direct communication with friends and family both residing in the homeland and elsewhere. Rising improvements in communication technologies that take the form of digital technologies (e.g. smart phones, skype, social media and email) create a sense of belonging and connectivity in imagined spaces (Leong, 2011; Evers & Goggin 2012). Simply put, migrants therefore form social networks based on their multiple social and cultural identities and will use available ICTs to extend and maintain their social networks.

While there is a correlation between identity and social networks - where individuals in a network have common singular, multiple, or overlapping identities - the purpose of this research is to explore what drives the identity and social network formation of international students studying at Australian institutions of higher learning.

**Identity and Social Media**

How international students utilise social media technologies to express their identities and navigate the new contexts they encounter can inform understandings of hybrid identities. As of September 2012, according to Socialbakers (www.socialbakers.com/countries/continents/), there are 245,725,060 Facebook users in Asia, which represents a 6.35% penetration or proportion of the

2014 http://jistudents.org Volume 4 • Issue 1
total population who choose to use Facebook. In South America there is a higher penetration of 33.65%, with 133,471,000 users. Australia and Oceania have 14,498,180, which represents 41.83% penetration. Social media does represent an important new trend. In this paper we follow Kaplan and Haelien’s (2010) multidimensional definition of social media whereby social presence, media richness, self-presentation and self-disclosure are incorporated. Social media, in our study refers to social software used for social interactions, which include sharing different types of media such as: video, personal responses to other people’s content, and posts including self-disclosure and events of everyday life. These posts are way of managing how people present themselves in everyday life to their social networks.

Self-presentation and self-disclosure are linked to notions of identity. According to Goffman (1959), self-presentation is the way people manage the impressions others form of them. Self-disclosure is a strategy people use as a way of presenting themselves to others, which may be influenced by social context – meetings at work, dinner with extended family, or coffee with our trusted colleagues. Depending on the social company and their perceived expectations, different aspects of self will be shown. This also applies to social interactions on line, but with one key difference. Online spaces create hybrid or collapsing contexts where family, friends and work colleagues may well be in the same place (Marwick and boyd, 2010). This has interesting implications for cross-cultural communication and clearly impacts how international students negotiate their identities.

**Keeping in Touch through Social Media**

The increasing use and connectivity made possible by improvements in communication media and digital technologies have enabled transient migrants such as international students—more so than ever before—to remain connected to their national homelands (Hjorth, 2011; Hjorth & Arnold, 2012) by creating virtual networks and by providing direct communication with friends and family both residing in the homeland and elsewhere. This connection is clearly important, and yet a more sophisticated understanding is required of their emerging and hybrid identities.

This study is significant because it assists in establishing, developing and strengthening various economic, industrial, cultural and social two-way bridges between Australia and the countries of origin of International Students (primarily from Asian nations but increasingly from Europe, North America, South America and the Middle-East). International Education is Australia’s second largest export services sector behind tourism according to Austrade (Australian Education International, 2011). The well-being of international students in Australia is crucial if this sector is to continue its favourable impact on Australia’s balance of trade. International students also contribute to Australia socially through the changes in ethnographic and cultural landscapes through their presence. During their sojourn, international students form a relationship with Australia, which influences their future dealings with their host country either from within Australia or from overseas. Understanding the complex relationships between identities and social networks is critical to both the creation of a home away from home, as well as a sense of well-being, for international students.

Therefore, this project aims to answer the following questions:

1. What impacts do social networks have on international students’ identity(ies)?
2. Which social media outlets and online communities do international students interact with?
3. What practical implications are there for helping international students manage their health and lifestyle?
In this paper, we explore the role of identity in helping international students form social networks at an Australian institution and how these networks contribute to creating a sense of home.

**Methods**

**Sample**

To achieve the aims of the project, a focus group methodology was used as a way to elicit rich in-depth data from students describing their social networks. The qualitative methodology enabled the researchers to probe further into the motivations for using the particular information sources that respondents reported to gain a rich data set. It also allowed discussion within each focus group about the similarities and differences in using these sources. More importantly, the interaction between focus group members allowed researchers to observe differences between student groups. A range of issues was raised and discussed in the focus groups relating to: (i) the students’ social identities/roles; and (ii) their social networks;

The target populations for this research project were undergraduate and postgraduate international students enrolled at The University of Melbourne (UOM) and the Royal Melbourne Institute of Technology (RMIT) University and international students from Technical and Further Education (TAFE) colleges in Melbourne. For the purpose of this study, international students were defined as students from foreign countries physically studying in Australia. Participants were excluded if they were not international students. Participants were recruited via advertising in staff and student newsletters of these institutions. Potential participants contacted the research assistant who ascertained their eligibility and explained the study to them. Those who agreed to participate were then scheduled for a focus group session that was convenient to them. Participants were compensated for their time with a gift voucher. Focus group discussions were audio recorded with the consent of participants. The duration of the focus groups ranged from 70 to 120 minutes, depending on the size of the group and depth of discussion.

A total of seven focus groups were conducted with international students from undergraduate and postgraduate programs at both universities and with students from TAFE colleges. As indicated in Table 1, the sample included students from a range of countries and across different educational levels—from vocational education and training (VET) to postgraduate studies (coursework and research higher degree).

<table>
<thead>
<tr>
<th>Focus Group</th>
<th>Number of Students</th>
<th>Gender</th>
<th>Educational Level</th>
<th>Discipline Areas</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus Group 1</td>
<td>5</td>
<td>M (2) F (3)</td>
<td>Undergraduate</td>
<td>Commerce (4) English (1)</td>
<td>China (2) South Korea (1) Vietnam (1) Hong Kong (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Iran (1) China (1) Singapore (1)</td>
</tr>
<tr>
<td>Focus Group 2</td>
<td>3</td>
<td>M (2) F (1)</td>
<td>Postgraduate</td>
<td>Commerce (1) Communication (1) Architecture (1)</td>
<td>Japan (1) USA (1) Brazil (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sri Lanka (1) Bangladesh (1) Vietnam (1)</td>
</tr>
<tr>
<td>Focus Group 3</td>
<td>6</td>
<td>M (1) F (5)</td>
<td>Postgraduate</td>
<td>Public Health (2) Medicine (1) Teaching (1)</td>
<td>Art (1) Psychology (1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Japan (1) USA (1) Brazil (1)</td>
</tr>
<tr>
<td>Focus Group 4</td>
<td>6</td>
<td>M (2) F (4)</td>
<td>Undergraduate</td>
<td>Commerce (2) Engineering (2)</td>
<td>Indonesia (2) Hong Kong (2)</td>
</tr>
</tbody>
</table>
After transcribing the focus groups in full, transcriptions were analysed manually using thematic analysis (Braun et al., 2006). This process involved reading and re-reading the selected text, coding, preliminary categorisation, and further classifying the data into categories. This was an iterative process to verify the accuracy of these categories. As the data was coded and recoded, the themes were expanded, contrasted and discussed amongst researchers.

**Findings**

**Social Networks**

A comprehensive thematic analysis of focus group data revealed that students could be classified into four broad groupings based on the demographic make-up of their social networks. While these groupings are distinct from each other, students engaged in a variety of social activities, which sometimes overlapped.

Students whose social networks were dominated by international students from their home country (SNHC). Twelve of the focus group participants were classified into this category and included students from Vietnam, Hong Kong, Malaysia, Indonesia, China, Chile, and Colombia. Students from this group reported that they tended to socialize, study with, and often lived with other international students from their home countries. Pre-dominantly, they would also speak their home languages when interacting within this social group. Students engaged in food-focused activities (e.g., eating out together), social activities (e.g., hanging out, BBQ), visiting tourist attractions, or went shopping. Some students did study-focused work together or played online games.

Students whose social networks were dominated by international students from a variety of countries (SNIS). There were seven participants in this category and included students from Bangladesh, Singapore, Indonesia, Iran, Brunei Darussalam, Kuwait, and South Korea. This group of students reported that they tended to socialize with a range of other international students who are not necessarily from their home country. Sometimes, this might be due to a desire to interact across cultures while others reported that they found it hard to connect with students from their own countries, either due to small numbers of representative students or social differences. These students tended to communicate in a common language that all members of their social network are familiar with. Food-focused activities such going to restaurants together, social activities like simply “hanging out” at each other’s places, playing games and shopping again proved popular with the SNIS group. Some in this category also reported that they did study focused activities together.
Students whose social networks were dominated by Australian domestic students (SNAS). This group of students is smaller than the other three within our sample. There were five participants in this category and included students from countries around the world like Japan, China, Brazil and the USA. Participants reported that they actively sought to integrate and find local friends through study, work or general social clubs within their institutions or within the communities they live in. Some of the students might already have made Australian friends even before coming to Australia. This might have been through visiting Australia and overseas or through social networking sites. As one of the participants commented: “I already knew some people in Melbourne before coming...I’ve met other Australians because they go to my home country, like to travel, so I kept in touch... and since I got here, we became close and—Some—most are Australians actually” (PG/Brazil). They tended to speak English in their interactions. Students engaged in social activities (e.g. hanging out, drinking at pubs, clubs, bars), and some engaged in hobbies (e.g. playing guitar, sports, online computer games).

Students whose social networks included a mix group of students, both Australian and international (SNMS). There were seven participants in this category and included students from Sri Lanka, China, Hong Kong, Thailand, Vietnam, Turkey, Chile, Colombia and Brazil. This group of students reported that they almost seemed to have two social networks that do not always mix with each other. They tended to be the middle person ‘moving and travelling’ between their social networks. They report that they spoke different languages in each of their networks. Once again eating out, sports, listening to music together at a friend’s house or out at a venue, as well as shopping proved to be popular activities. Some South Americans invited their Australian friends to their houses to mix with their home country friends and to get to know each other.

In addition to the broad social network groupings, the research project also tried to examine similarities between students in the distinct groups of college/TAFE students, undergraduate students, and postgraduate students. It is worth noting that the researchers found that there were fewer commonalities within educational level groupings than there were within the social network groupings.

While many studies in the past have focused on country of origin as a way to differentiate international students from each other, this project found that focusing on country of origin could provide very misleading and incomplete information about international students. For example, students from China were represented in three of the four social network groupings above (SNHC, SNAS, and SNMS). In terms of use and access to information, the Chinese students in each of the social network groupings displayed more commonalities with other students in the same social network groupings than with Chinese students who reported other social network groupings.

**Home**

Table 2

Questions about home

<table>
<thead>
<tr>
<th>Q. Where do you consider home to be?</th>
<th>Number of students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where they live</td>
<td>10</td>
<td>28.6%</td>
</tr>
<tr>
<td>Where they born (spent most of time/Where family lives)</td>
<td>18</td>
<td>51.4%</td>
</tr>
<tr>
<td>Both where they live and family live</td>
<td>6</td>
<td>17.1%</td>
</tr>
<tr>
<td>Where the people they love are</td>
<td>1</td>
<td>2.9%</td>
</tr>
</tbody>
</table>
Focus group data revealed that students had differing views of what is home. For example a postgraduate student from Japan said: “I think, where I live now is like, just a house really, like I can’t call it a home yet because I don’t know the people who I live with very well. I think my home is Japan and, yeah it’s hard to find a home, like a place I can call home” (PG/Japan). Another postgraduate student from Vietnam expressed her notion of home as: “for me...home is where I live” (PG/Vietnam) and an undergraduate student from China observed, “(home is) where we live, here in Melbourne” (UG/China) in response to the question about where they saw home as being. Another undergraduate student described home more fluidly as “where the heart is” and where their friends and family reside, noting: “normally I consider home is the place where I live with my family” (UG/ Vietnam). The aggregated data suggests that slightly over half (51.4%) associate home with their birth country. Slightly over a quarter (28.6%) had a more transient notion of home as being where they happen to live right now, that is Australia, and 17.1% had a layered view of home as being both here in Australia where they live now and at the same time being their birth country where their family live.

**Employment of Social Media**

Table 3
Most used websites

<table>
<thead>
<tr>
<th>Q. What websites do you tend to use the most?</th>
<th>Number of students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>27</td>
<td>77.1%</td>
</tr>
<tr>
<td>Emails (e.g. Hotmail, Yahoo)</td>
<td>23</td>
<td>65.7%</td>
</tr>
<tr>
<td>Searching sites (e.g. Google, Naver)</td>
<td>23</td>
<td>65.7%</td>
</tr>
<tr>
<td>News sites (local and international)</td>
<td>20</td>
<td>57.1%</td>
</tr>
<tr>
<td>Media sharing sites (e.g. YouTube)</td>
<td>10</td>
<td>28.6%</td>
</tr>
<tr>
<td>Jobs &amp; real-estate sites (e.g. Gumtree)</td>
<td>8</td>
<td>22.9%</td>
</tr>
<tr>
<td>University portals</td>
<td>6</td>
<td>17.1%</td>
</tr>
<tr>
<td>Twitter</td>
<td>4</td>
<td>11.4%</td>
</tr>
<tr>
<td>Skype</td>
<td>4</td>
<td>11.4%</td>
</tr>
<tr>
<td>Wikipedia</td>
<td>4</td>
<td>11.4%</td>
</tr>
<tr>
<td>QQ</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Blogs</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Commerce sites (e.g. ebay)</td>
<td>2</td>
<td>5.7%</td>
</tr>
<tr>
<td>Academic Journals sites</td>
<td>2</td>
<td>5.7%</td>
</tr>
<tr>
<td>My space</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>OoVoo (similar to Skype)</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>Weibo</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>Way book</td>
<td>1</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Table 4
Countries where friends are from

<table>
<thead>
<tr>
<th>Q. Where are their friends from?</th>
<th>Number of Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home country, local &amp; overseas</td>
<td>15</td>
<td>42.8%</td>
</tr>
<tr>
<td>Home country &amp; overseas</td>
<td>9</td>
<td>25.7%</td>
</tr>
<tr>
<td>Local &amp; overseas</td>
<td>5</td>
<td>14.3%</td>
</tr>
<tr>
<td>Home country</td>
<td>3</td>
<td>8.6%</td>
</tr>
</tbody>
</table>
Students in all groups actively made use of social media to keep in contact with friends and family in their birth countries, host nations, and in Australia [e.g. “[I] use more of Facebook than the Korean equivalent [Minihompy]” (UG/South Korea) and “for an example an earthquake was in Turkey but I can read Facebook my friends will or something and I even all around the world they can share or we are so sorry for Turkey (TAFE/Turkey)”). Students from Mainland China tended to use Chinese social media such as Weibo (similar to Twitter), Renren (similar to Facebook) and various online forums for this purpose “I use QQ more,” (UG/China). Students pointed out that Facebook was the one tool that allowed them simultaneously to keep up with friends and family in their home countries as well as with new friends and acquaintances that they had made in Australia. Facebook was also a source of information if the students had a serious health issue. As one student commented: “Maybe you can still ask on Facebook but you set the privacy so that only a few people can see it, you can ask your friends” (UG/Brunei). However most students would go to a health clinic or hospital and use Google to search for symptoms “[I would] go to see a doctor... [and]...Google” (UG/Hong Kong 3). Some students indicated that they depended on social media networks such as Facebook for their news; this was especially true of those students whose social networks were dominated by international students from a variety of countries [ e.g. “Facebook sometimes people post something too so I normally look on Newsfeed and see roughly what happens... Actually quite the same – keep in touch with friends and my sister” (TAFE/China)].

### Connecting with Different Types of Students based on Complex Individual Identities

Table 5
Connecting with friends from a variety of social circles

<table>
<thead>
<tr>
<th>Type of groups of friends (social circle)</th>
<th>No. of students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study (classmate) group</td>
<td>21</td>
<td>60%</td>
</tr>
<tr>
<td>Very Close group</td>
<td>12</td>
<td>34.3%</td>
</tr>
<tr>
<td>Workmates group</td>
<td>10</td>
<td>28.6%</td>
</tr>
<tr>
<td>Housemate group</td>
<td>8</td>
<td>22.9%</td>
</tr>
<tr>
<td>Prayer group</td>
<td>8</td>
<td>22.9%</td>
</tr>
<tr>
<td>Home-country group</td>
<td>6</td>
<td>17.1%</td>
</tr>
<tr>
<td>Occasional friend group</td>
<td>4</td>
<td>11.4%</td>
</tr>
<tr>
<td>Hobbies group</td>
<td>4</td>
<td>11.4%</td>
</tr>
<tr>
<td>Overseas friend group</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Functional matters group (e.g. computing)</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Voluntary work group</td>
<td>2</td>
<td>5.7%</td>
</tr>
<tr>
<td>Language group</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>Facebook group page</td>
<td>1</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Students revealed that their social networks are not always directly connected to the home nation but are instead based on each students’ complex individual identities, which are negotiated by culture, language, religion and general interest. The data indicated that students did not solely socialize with others from their country of origin. Rather, they socialized with fellow international students who hailed from their home regions and local students who are culturally similar to them. One student responded: “most of my friends are international, so they are from, like India, Pakistan,
Nepal, Cambodia, Tanzania, Mozambique; a few are from Africa, and I also know some people from Bangladesh” (PG/ Bangladesh).

Table 6
Social activities

<table>
<thead>
<tr>
<th>Q. What do you like to do socially?</th>
<th>Number of Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating out together/Food-focused (e.g. lunch, dinner, drink)</td>
<td>24</td>
<td>68.6%</td>
</tr>
<tr>
<td>Hobbies activities (e.g. playing Guitar, sports, games)</td>
<td>12</td>
<td>34.3%</td>
</tr>
<tr>
<td>Study-focused</td>
<td>12</td>
<td>34.3%</td>
</tr>
<tr>
<td>Hanging out (clubbing)</td>
<td>10</td>
<td>28.6%</td>
</tr>
<tr>
<td>Visiting tourist sites &amp; special places</td>
<td>8</td>
<td>22.9%</td>
</tr>
<tr>
<td>Parties</td>
<td>7</td>
<td>20%</td>
</tr>
<tr>
<td>Shopping</td>
<td>7</td>
<td>20%</td>
</tr>
<tr>
<td>Religious activities</td>
<td>7</td>
<td>20%</td>
</tr>
<tr>
<td>Sleep over</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Going to Cinema</td>
<td>3</td>
<td>8.6%</td>
</tr>
<tr>
<td>Voluntary work</td>
<td>2</td>
<td>5.7%</td>
</tr>
<tr>
<td>Social activities organized by university</td>
<td>1</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

From our data an example from the Asian region would be where Singaporeans socialized with other Asian classmates, including students from Malaysia, and Vietnam and locals who are ethnically and culturally Chinese [e.g. “Australian born Chinese, Malaysian, Singaporean, and people from Hong Kong as well, and local Caucasians” (UG/China)]. An example from the South American region would be where Brazilians socialized with Columbians and Chileans. Socialising with fellow international students from the region is facilitated by similarity in language. For example, from our data, students from China socialized with ethnic Chinese students from Hong Kong and Southeast Asia because of knowledge and fluency in Mandarin. Often, students socialized with classmates, co-workers, and neighbours and groups developed through online gaming, sports (e.g. soccer, cycling and rowing), religion (e.g. church groups) and hobbies (e.g. playing musical instruments).

Some students noted that they only mixed with local (Anglo) Australians if there was direct contact with them, such as the boyfriend of a flatmate. A student notes: “I live with my boyfriend and his brothers and his brother’s girlfriend they are Aussie, so I have to speak English” (TAFE/Brazil). Some students, particularly the undergraduates, revealed that they rarely or never socialized with locals because of cultural and language differences. As one student comments: “Yeah (it's so hard to find Australian friends ) and then they don’t really talk to the Asian people...they don’t really interact with us...so ... during the university lives, like after your lectures you don’t, we’ll have a coffee, no and it's, very depends on what course you are. Like if, in commerce for organised history … you will have, well all the chances are going up but, you know for actual real you don’t really have” (UG/China).

Discussion

The findings of this study revealed that while some students directly identify with fellow international students from their home nations to form social networks, this is not necessarily the case for all students. Rather, students proactively form varied social networks based on the complex individual social and cultural identities of each of its members. Within the social group,
their identities are influenced by a variety of factors, including culture, language, religion, academic course, workplace, housing and personal interests (hobbies). This assessment ties in with Giddens (1991) theory of identity being individualised, complex and ongoing since it is influenced by encounters with others in the everyday environment. Sometimes these identities may overlap with each other and may include students from the birth country (e.g. Chinese students identifying with each other through language and culture).

This study also reveals that international students’ identity-based social networks are local and are maintained through face-to-face contact and through social media contact. Moreover, these social networks provide the opportunity for students to engage in different forms of entertainment (e.g. going to the cinema) and social activities often revolving solely or in some way around food. This analysis fits in well with Russell et al.’s (2010) discussion on social connectedness to local Australians, family, and co-cultural friends.

The use of social media to stay in contact with friends and family from the home nation may assist students with forming imaginary bonds with their homelands. Doing so provides international students with virtual home-based support networks, which then allow them the opportunity to pursue and form local social networks with students other than those who come from their countries of birth.

Conclusion

This study sheds light on the ways in which international students from specific universities and higher education Melbourne institutions in Australia negotiate everyday life while living away from their places of birth. It reveals that international students have multiple identities that are neither a singular national home-based identity, or social networks exclusively connected to the home nation. Moreover, this study shows that international students have complex identities, which shape the development of local social networks which are not exclusively made up of international students from their home countries. These social networks then provide support for everyday life, particularly when it comes to engaging in entertainment and social activities.

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References


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Challenges Facing Asian International Graduate Students in the US: Pedagogical Considerations in Higher Education

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Susan Day Scherz, EdD
Idaho State University (USA)

Abstract

Non-Native English Speaking (NNES) international students attending colleges and universities in the United States often encounter difficulties in adjusting to their new cultural environment. In addition, they often struggle with academic language while learning the content and conceptual structures of various graduate level disciplines. This phenomenological study identified cultural and linguistic challenges experienced by NNES Asian international graduate students at a medium-sized rural university in the northwestern United States. A pedagogical framework and recommendations for professional practice address the linguistic, cultural, and academic needs of this particular student population in higher education.

Keywords: cultural challenges, cultural responsiveness, international students, learner-centered approach, linguistic challenges, scaffolding

The number of international students in the United States in 2008-2009 reached an all-time high of 671,616, reflecting an eight percent increase in student enrollment (Institute of International Education [IIE], 2009). In particular, Asian students represented 62% of the international student population (Kim, 2012). These numbers reflect an unprecedented and significant trend of mobility and migration, as well as an increase in cultural and linguistic diversity within higher education (Altbach, 2004; Carroll & Ryan, 2005; Kim, 2012). According to Al-Sharideh and Goe (1989), international students in the United States often encounter difficulties in adjusting to their new cultural environment. They come to the classroom with different worldviews, different cultural and linguistic backgrounds, and varying strategies for learning. In addition, they vary widely in academic ability, motivation, prior educational experience, and English language proficiency (Arkoudis, 2006; Kim, 2012).

Many international students experience cultural and linguistic challenges different from those of domestic students (Arkoudis, 2006). They often struggle with academic language in
English while also learning the content and conceptual structures of various graduate level disciplines (Beaven, Calderisi, & Tantral, 1998; Lin & Yi, 1997). Differences in writing styles, linguistically and culturally driven logical thinking, and appropriately formulating thought into writing structures may vary widely and play a significant role in students’ academic and interpersonal experiences (Levi, 1991; Zhu & Flaitz, 2005). Furthermore, to interact socially with American peers, instructors, and community members, international graduate students have to personally adjust to American culture and learning expectations. As an example, in some Asian cultures instructors have absolute authority and are not to be challenged by students (Ariza, 2010), which is very different from higher education in the United States. Although students often employ strategies for overcoming cultural and linguistic challenges, these culturally influenced strategies are not always understood nor valued by instructors and student peers (Arkoudis, 2006; Beaven et al., 1998; Millar, 2009). Western university instructors often categorize Asian students as either the brainy Asian or the rote learner (Marton, Watkins, & Tang, 1997). Researchers, however, have found that the learning patterns of Asian students reflect the type of curriculum and assessments encouraged by schools in their home countries (Barron 2002; Li & Kaye, 1998). In addition, Asian students tend to adopt spontaneous collaborative approaches in researching and writing assignments. Studies suggest that the employment of this type of group learning is highly influenced by the Confucian cultural values that focus on group work (Gatfield & Gatfield, 1994; Ramburuth & McCormic, 2001; Tang, 1996).

Given the increasing global diversity in student demographics in higher education, it becomes critical for instructors to understand NNES international graduate students’ cultural and linguistic challenges in order to facilitate effective teaching and learning for all students. To create positive learning environments that prepare all students to interact and engage with others different from themselves, instructors must address cross-cultural and linguistic dimensions within the student population (Altbach, 2004; Wong, 2006). Considerations include the following: How do instructors understand and address cultural and linguistic challenges within the classroom? How do instructors create a sense of community within their diversely populated classrooms? How do instructors provide and create culturally and linguistically inclusive teaching and learning environments that are relevant and stimulating to NNES international graduate students as well as to other student populations?

**Theoretical Framework**

**Culturally Responsive Teaching**

Cultural responsiveness reflects the awareness of an individual to variances within cognition, behavior, language, and education among individuals who have differing racial, ethnic, social, gender, linguistic, religious, political, or other backgrounds and experiences. Characteristics of culturally responsive teaching include: assessing and using cultural knowledge and background of students, valuing and respecting diversity, managing the dynamics of differences, and institutionalizing cultural knowledge to facilitate student learning (Ariza, 2010; Banks et al., 2005; Gay, 2000; Ladson-Billings, 2009; Terrell & Lindsey, 2009). Culture changes (consisting of four key components: cognitive development, behavior, language, and education) were based on the influences and interactions of both internal and external circumstances (Collier, 2011). Culture shapes the way individual students think; the way they interact; the way they communicate, and the way they transmit knowledge to the next generation. To be culturally responsive, instructors must be knowledgeable of the cultural characteristics of their students and understand how culture affects learning and teaching (Gay, 2000; Pai, Adler, & Shadiow, 2006).

Instructors’ self-knowledge, knowledge of their local community, and knowledge of their students’ cultural and linguistic backgrounds are essential foundations for culturally responsive teaching. Instructors “who ‘think pedagogically’ about diversity are able to build a practice that is
both academically challenging and [culturally] responsive to students” (Banks et al., 2005, p. 245). Culturally responsive instructors are empowered to integrate students’ learning styles, learning expectations, and academic strengths into an inclusive learning environment for all students (Millar, 2009; Smith, 2009). Culturally responsive teaching impacts the development of curriculum, pedagogy, and assessments that are responsive to all students. By determining to what extent the native languages and cultures of international students represent a bridge or a barrier to learning, instructors may then adjust curriculum, course design, teaching methods, and assessments accordingly (Jin & Cortazzi, 1998). Culturally relevant knowledge empowers instructors to internationalize their teaching and work more effectively with diverse international students (Arkoudis, 2006). At the same time, domestic students also benefit.

**Learner-Centered Instruction**

Students who are exposed to and engaged in varying experiences and interactions are more likely to develop different and deeper types of competence, including cultural, linguistic, and academic. By using a learner-centered approach designed to promote and facilitate deep understanding, instructors create an inclusive context while facilitating processes, resources, and content. Students, on the other hand, are encouraged to articulate their own goals for learning and are actively engaged in the learning process. They construct knowledge, synthesize information, develop essential questions, and work collaboratively with others. In doing so, “learners make sense of course material and develop a deeper understanding than they would if they passively listened to a lecture” (Huba & Freed, 2000, p. 36). Additionally, instructors and students, as co-managers of learning, share the joint responsibility of generating learning opportunities in class. Learner-centered approaches become particularly powerful for NNES international graduate students seeking academic rigor and the opportunity to influence or co-manage meaningful learning contexts for themselves while also deepening their academic and social language skills in English (Kumaravadivelu, 2003). By centering the learners in the learning process, international students as well as domestic students are empowered to bring their own unique experiences as members of the larger global community and thus are engaged, thereby enhancing learning through the social, cultural, and linguistic dynamics and experiences shared among all students. As an outcome, learner-centered teaching becomes a tool for creating a culturally and linguistically inclusive and supportive learning environment for all students (Arkoudis, 2006; Kumaravadivelu, 2008).

**Scaffolding**

Vygotsky (1978) and other researchers (Ohta, 2000; Pérez, 2004) define scaffolding as a collaborative process that promotes cognitive development through sociocultural interactions. Learning opportunities that engage all graduate students in sociocultural interactions set the stage to deepen or enhance their cognitive growth while improving their academic English (Krashen, 2003; Pérez, 2004). “Social processes allow the language to become a cognitive tool for the individual” (Ohta, 2000, p. 54). The use of scaffolding by the instructor not only supports student understanding of content (comprehensible input), it also further develops students’ proficiency in academic English. All students gain in this process as language proficiency and content knowledge develop through interactions with peers and instructors. Scaffolding techniques include, but are not limited to, small group interactions, visual support, hands-on activities, clear directions, explicit explanations about tasks and assignments, and rubrics used as assessment tools that provide constructive, guided feedback to students (Davis & Miyake, 2004; Huba & Freed, 2000; Wood, Bruner, & Ross, 1976). The use of scaffolding provides assistance or support via techniques or tools to help international students transition to a new cultural and linguistic environment while also attaining the targeted goal(s) for learning.
Insights from the Literature

Insights from the literature indicate the following issues that also impact the cultural and linguistic challenges experienced by NNES international graduate students. With the best of intentions, instructors often take a deficit view of the academic skills and differences of NNES international students. According to Carroll and Ryan (2005), instructors may see NNES international graduate students “as lacking in independent, critical thinking skills; as plagiarizers or rote learners, speaking broken English and having awkward ways of participating in class” (p. 6). Instructors may subconsciously accept the deficit view without realizing the impact of second language acquisition and cultural influences on learning and thinking. In spite of so-called deficits, international and other linguistically and culturally diverse graduate students bring additional academic skills, cultural knowledge, and worldviews that become value-added features for instructors to consider and incorporate when planning and delivering curriculum.

Despite the tendency in the United States to view Asians as a homogeneous community, Asian communities reflect great diversity in terms of political, social, economic, cultural, linguistic and educational features (Um, 1999). These differences have the potential to bring richness to the graduate classroom but challenge students and instructors alike as all struggle to find common ground for meaningful instruction, assessment, and worldviews (Gladding, 2009). Overzat (2011) indicated that one of the difficulties facing college instructors or counselors is the rich diversity among Asian international students. For example, in China alone, there are 56 native Chinese ethnicities; each has its own history and belief system. Yet, some Asian international students may come from a homogeneous society and may not have developed a distinct racial identity (Yang, Maddux, & Smaby, 2006). Even though Chinese international students from particular geographic regions might be quite similar, not all Chinese international students will share exactly the same worldview, nor should all Asian international students be expected to have the same views (Gladding, 2009).

For Asian international students, “learning and living in a different culture; learning in a foreign university context; learning while developing English language proficiency; and learning the academic disciplinary discourse” (Arkoudis, 2006, p. 5) offers a variety of challenges. Although all Asian international students do not share the same cultural and linguistic backgrounds, they do share the common experience of facing linguistic and cultural challenges while studying in the United States. This phenomenon offers instructors a unique avenue for examining cultural and linguistic challenges experienced by NNES international graduate students participating in higher educational settings.

The purpose of this phenomenological study was (a) to identify the cultural and linguistic challenges experienced by NNES Asian international graduate students at a medium-sized rural university in the northwestern United States, and (b) to develop a learner-centered, culturally-responsive, scaffolded pedagogical framework to address these challenges in an increasingly diverse higher education environment. The research questions addressed through this study were:

1. What cultural and linguistic challenges were experienced by participants in relation to their graduate studies through university programs?
2. What strategies were used by participants in dealing with cultural and linguistic challenges experienced through their university programs?
3. What recommendations would these participants make to the university or specific programs that would help all international graduate students?
Method

This qualitative phenomenological study identified cultural and linguistic challenges experienced by a group of NNES international graduate students. Creswell (2007) states that phenomenological research focuses on “describing what all participants have in common as they experience a phenomenon” (p. 58) and allows researchers to integrate “their own experiences and the context and situations that have influenced their experiences” (p. 58). Since globalization is increasingly important, the phenomenological qualitative analysis about “what” and “how” NNES international graduate students experience in American higher education learning environments will be instrumental for future curriculum design and research. In Creswell’s words (2007), “it is important to understand these common experiences in order to develop practices” (p. 60).

The phenomenological approach allows a small group of participants’ voices to be heard while providing researchers in-depth understanding of the experiences shared by these students. This qualitative approach is supported by Lester (1999) who clarifies that by limiting participants to a smaller number, more in-depth reflection is encouraged by the participants and deeper insights gained by the investigators. Additionally, an interpretative phenomenological study, as described by Smith, Flowers, and Larkin (2009, 2010), allows an emerging framework to develop through the analysis of the participants’ responses.

The following assumptions provided a foundation for this study: international students encounter cultural and linguistic challenges in contexts that are different from their native countries; international students may not have developed effective strategies for dealing with cultural and linguistic challenges in contexts that are different from their native countries; and many instructors are not pedagogically prepared to support culturally and linguistically diverse NNES international graduate students.

Participants and Contexts

This study was initiated at a medium-sized university of 15,000 students in a rural town in the Northwest. There were 139 enrolled international graduate students, accounting for about seven percent of the graduate student population. Five NNES Asian international graduate students, four male and one female, from three different countries voluntarily participated as a convenience sample in the videotaped focus group interview. Three were doctoral students and two were in Masters programs. All five participants had been in their programs for at least one year when they participated in this research study.

Procedure

The procedures of this study involved the following components: development of an interview protocol using the Focused Conversation Method (Institute of Cultural Affairs, 1994); human subjects approval; implementation of a focus group interview; and data analysis methods using charting, coding, and theme analysis.

Development of interview protocol. The interview protocol was designed using the Objective, Reflective, Interpretative, and Decisional (ORID) methodology, developed by the Institute of Cultural Affairs (1994). The ORID method began with a series of objective questions that functioned as a warm-up activity in which students provided relevant background knowledge information: home languages, majors, and educational experiences in the U.S. higher education classrooms. At the reflective level, questions brought forth personal and often emotional reactions
to the topic of discussion. At the interpretative level, meaning, values, and significance of the topic were revealed. Finally, at the decisional level, questions brought the conversation to a close, allowing respondents to draw conclusions about the topic of their discussion (Stanfield, 1997). The process allowed active participation in a spontaneous and free-flowing conversation (Barcillano, 2003).

**Focus group interview.** The focus group interview obtains contextual data from a group of individuals who share commonalities (Frey & Fontana, 1993). Krueger and Casey (2009) indicated that small focus groups, with four to six participants, are more comfortable and less threatening. In-depth insights can be accomplished with small focus groups because participants have more opportunities to express and share their experiences related to the topic studied.

The interview for this study was conducted in English and lasted approximately two hours. Participants’ responses were voluntary. They were not required to answer questions unless comfortable doing so. The interview was also videotaped with audio, which allowed both visual review of physical responses (e.g., meaningful body language) and aural review of discussions.

**Analysis and interpretation of data.** The process of analyzing responses consisted of identifying “significant statements,” sentences, or quotes that conveyed participants’ experiences from the interview. The significant statements, sentences, or quotes were then categorized under key cultural and linguistic themes, coded, and charted for analysis (Creswell, 2007, p. 61). Conclusions were then drawn based on: 1) the individual and collective responses of the participants relevant to the identified cultural and linguistic themes, 2) the relationship of student responses to the themes formulated through the literature review for this study, and 3) the identification of additional themes that emerged through the discussion with participants. For the purpose of confidentiality, pseudonyms were used to protect participants’ identities; however, references to their native countries or native languages were included in the coding charts and written documentation of the study.

**Roles and Perspectives of the Researchers**

At the time of this study, we taught in the College of Education at the same university. Both of us have graduate training in and teaching experience with Teaching English to Speakers of Other Languages (TESOL). One researcher has engaged in graduate coursework as an NNES Asian international graduate student in the United States with prior experience teaching English as a foreign language. She currently teaches graduate and undergraduate courses for teacher preparation programs. The other researcher is a native English speaker, who has worked with culturally diverse communities as a school district administrator. She has also taught graduate courses in educational leadership for prospective principals and superintendents.

Before starting this study, we had opportunities to interact with international students at the university where we taught. They openly shared their learning experiences, positive and negative, with us. We had also witnessed the perceptions among some instructors struggling to work effectively with international students in their classes. In many cases, the instructors did not appear to be culturally aware and/or did not have an understanding of the processes and time involved in second language acquisition and acculturation. The interactions we had with students and instructors led us to want to “explore” challenges international students face in the U.S. higher education context with hope that we could provide “insights” for instructors who work with them.

**Findings**

Most of the participating NNES Asian international graduate students indicated positive experiences at the university while also acknowledging various challenges. Initially, we focused on
giving voice to NNES international graduate students experiencing cultural and linguistic challenges. In the process of analyzing participants’ responses, we discovered that their voices not only informed the purpose of the study and questions to be addressed, but also contained intersecting and complimentary insights and experiences, thus strengthening the overarching themes. As a result, in addition to linguistic and cultural themes, a third theme, instructional and academic challenges, emerged from student responses.

**Linguistic Challenges**

Participants’ home language, prior knowledge of the English language, and proficiency levels of social and academic language have an influential impact on their learning, thinking, and performance in the U.S. higher education context. Understanding these linguistic challenges provides both students and instructors with insights that can be used to develop strategies for overcoming difficulties.

**Understanding lectures.** Linguistic differences between home languages and the English language may place a heavy burden on students to understand lectures, especially when professors speak fast or use slang or idioms with which the students are not familiar. George indicated, “People speak fast. Usually some professors do not think about this. They [professors] speak some slang, which [NNES] students do not understand.” John shared,

I have hard time understanding lectures. Before I can do my writing, I have to understand what my professors say. I use a recorder to tape lectures and listen to the recorded lectures over and over (usually five or more times) until I fully understand the lectures.

**Participating in classroom discussion.** Study participants often found it difficult to participate in classroom discussions for a variety of reasons. They had to be able to follow the conversation contextually and with understanding, while also attempting to contribute orally to the discussion. At times, they felt inadequate expressing themselves to the point of feeling “stupid.” Bruce shared his frustration, “English was the challenge. I sometime feel uncomfortable in the class, but if we can speak [our home languages], we don’t feel so stupid.” John added, “Listening and speaking skills in English are difficult [for me to participate].” Lisa said, “I feel anxious when speaking English in front of other students. I have difficulty participating [in] class discussions with classmates.” Lisa also reflected that prior to participating in an English preparation program on campus, she had never actually spoken English although she had studied it before.

**Developing language skills in social-academic contexts.** Study participants expressed frustration with blended social and academic conversations. Tom shared,

We had study groups with American classmates. I realized sometimes that we are talking about a topic. Because in our Asian way, we solve the problem, just vote. But in our group, Americans they try to talk about everything related, not related. What is the point? They just keep talking clichés. It seems like we have a lot of discussion, but no, you just didn’t catch the point . . . American students are not precise on . . . topics of conversations.

Because of the participants’ expectations for academic focus in this scenario, they did not maximize the opportunity for social, linguistic interactions with native English speakers regardless of whether they were on task or not. Logistically, international students could have used the group meetings to practice their language skills, but due to their “Asian way, we solve the problem, just vote,” they missed an opportunity to expand their linguistic skills in a blended social and academic context.
With a tone of frustration, George concluded by saying, “The more I learn English, the more difficult I think English is to learn.” This student’s response reflects the challenge of developing language proficiency for academic success.

**Time for reading and writing.** Participants in this study indicated the tendency to read academic texts slowly in order to better understand content. They needed more time for reading and writing. John shared, “International students spend a lot of time reading.” Tom also indicated that “reading in English is challenging” for him.

**Cultural Challenges**

**Social relationships.** The prevailing social relationships international students faced in higher education included those with instructors and staff, native English-speaking peers, and community members. According to George, “Culture [in the United States] is really different from what I experienced in my country. Here people do more things individually.” This statement points out the cultural differences he was experiencing. Since NNES Asian international graduate students based their expectations for social relationships on their home cultures, they were not always comfortable with developing social relationships on campus or in the classroom. Lisa indicated that the relationship between students and instructors in her native country was somewhat distant, formal, and serious. Consequently, it was difficult for her to approach instructors for help: socially, linguistically, and academically. Fortunately for Lisa, once she asked her instructors for assistance, she found them easy to approach.

Most participants indicated limited opportunities to interact socially with domestic students, in the classroom and outside the classroom. A linguistic disadvantage manifests from the students’ perceptions about limited opportunities to practice social language skills with native English speaking (NES) students. George commented, “I feel left out in summer because there are not many native speakers on campus.” Bruce shared,

> On campus, just a few of the American students will talk with you, accept you. It is a limited conversation. Americans always like to talk about the sports games. We have no kind of American football in my country. We do not have the knowledge to talk with them.

Through the above examples, students shared their actual experiences with social interactions, reflecting cultural differences from what they knew previously about their native cultures, had anticipated for their present environment, or wanted to experience.

**Expectations for time.** Perceptions of time vary across cultures. As indicated by Hall’s cultural iceberg model (1976), the concept of time reflects cultural values that are invisible or implicit to people from different cultural backgrounds. How international graduate students prioritize and use their time may be different from American students. For example, Tom indicated, “American students are not precise on time . . . This is scientific time and everything is fast. I don’t have American time.” Tom also expressed,

> American friends are always late. I am always waiting for them. I thought Americans talked what they thought. Every time they would say okay, 3:00 p.m. Then, they would call and say, ‘Oh, I’m sorry. I have to run an errand.’ Here everything is slow.

In addition, Bruce shared his perception of scheduling individual appointments with instructors who were not available at the scheduled time or during office hours. From the student’s description, it is not clear whether the instructor did not keep posted office hours or lost track of a scheduled
appointment. Either way, the scenario lends itself to a cultural and/or communication mishap, which becomes confusing and frustrating for the student and which can be perceived as a barrier to success.

**Instructional and Academic Challenges**

Cultural and linguistic awareness by instructors equips them to effectively reach out and engage NNES international students in rigorous, meaningful, culturally responsive and inclusive instruction.

**Instructional delivery.** Course structure and the delivery of content reflected another blend of cultural and linguistic challenges for study participants. Lisa indicated,

> The course syllabus is a good introduction for international students. We prefer . . . specific information and guidelines for assignments. If the syllabus is not clear, it is difficult to know what to do, how assignments should look, and so on.

Tom shared that he is a well-organized person. “I want to know ahead of time what is going to happen.” Course delivery becomes ineffective and non-inclusive when instructors use culturally embedded explanations or examples, speak too fast, or use unfamiliar slang. In these situations, instructors themselves pose a potential learning barrier for culturally and linguistically diverse students. According to George,

> People do not always speak in a structured way that helps people understand. Usually some professors do not think about this. In order to explain something, they often use examples that are U.S.-based. International students still have no clue.

**Unmet academic expectations.** Participating students indicated they were looking for a rigorous and intellectually challenging academic environment. Instead, they felt some courses were not challenging and, at the same time, not aligned with assessments given within the course or program of study. Tom discussed his perception of the program’s comprehensive exam.

> A comprehensive exam is a total conclusion of all the work. Here, there are two exams. The first level is multiple choice, which to me seems like a drill. The essay for the second comprehensive exam overlaps [with the multiple choice] . . . It is kind of like torture to me.

When expressing this concern to the instructor, Tom was told, “It [timed writing] is a good opportunity to train students to work under a high pressure situation.” For this student, overlapping content and practice while working under pressure did not represent academic rigor nor did it represent curricular alignment for a comprehensive assessment. Bruce shared that some “courses are too easy to pass, but we get nothing . . . [yet we are not provided] enough experience in English and enough resources to do the comprehensive exam.”

In some cases, participants’ expectations for academics were not met. Most expressed interest in research, more practical field experiences, and internships. From Tom’s perspective,

> More internships and working experiences for graduate students would be helpful. They cannot just learn the knowledge from textbooks. They [professors] should force students to go out and do community experience to get the experience. Studying in the classroom is not enough.
Bruce shared, “International students are interested in doing research . . . during their studies.” Students participating in this study were looking for academic rigor, opportunities for research, and collaborative involvement in a larger community as part of their academic career and to expand their linguistic and cultural competence.

**Student Strategies for Overcoming Challenges**

**Linguistic strategies.** Participants in this focus group were aware of their linguistic strengths and weaknesses. They engaged in an on-going effort to improve their language skills. John shared, “I audio-taped lectures and would listen to them up to five times to make sure I had captured all the content.” Other students shared efforts to visit churches in order to practice language skills. Bruce said, “I go to different churches to make friends and practice my English.” Others spent extra time reading. Additional strategies to overcome linguistic barriers included watching TV, self-talk in English, and spending time in the cafeteria talking with native speakers. George shared his strategies, “I practice my English by paying attention to how people say things in the supermarket, in the classroom. . . . Sometimes, I talk to myself in English when I walk.” All these examples reflected a commitment to learning.

**Cultural strategies.** Participants expressed interest in learning about American sports in order to engage in social conversations with native speakers. Some students found the community to be open for conversation. George said, “I learned how to play basketball and watch football.” This was his strategy for bridging a cultural gap. Bruce indicated “hanging out at the campus gym” as his strategy for meeting and engaging in conversations with native speakers. John said, “I spend time in [the] cafeteria talking with students. I like to live on campus, so I can talk with American students.” Bruce indicated “hanging out at the campus gym” as his strategy for meeting and engaging in conversations with native speakers. John said, “I spend time in [the] cafeteria talking with students. I like to live on campus, so I can talk with American students.” Lisa practiced English by talking with and exchanging food with neighbors, while Tom explained that he enjoyed making friends. His strategies included traveling and visiting churches.

I travelled visiting San Francisco, Disneyland, Las Vegas and other places. I take pictures and keep a photo/picture diary. I go to different churches to make friends. In church, Americans will talk to you . . . I want to experience life in the U.S. I was burned out in my country, working 14 hours a day, seven days a week.

**Instructional and academic strategies.** In order to meet their instructional and academic expectations and goals, students have to integrate linguistic and cultural strategies within their courses. In the United States, asking instructors for assistance is a common strategy for coping with academic challenges. That approach may require a blend of linguistic and cross-cultural adjustments for international students, who may have a difficult time asking for assistance from their instructors. As study participants worked through these challenges, they found instructors to be approachable. George said,

When I first came into a classroom, I was really nervous. The instructor of the class shook hands with me. ‘You are fine. If you have questions, come to me.’ It really took the pressure away from me . . . Professors [are] more knowledgeable . . . I feel I am becoming a better thinker.

Lisa shared her experience, “Sometimes [I] have to ask for assistance from professors and have found professors here very nice and willing to help.” These strategies reflected participants’ commitment and creativity to overcome cultural challenges and build social-cultural relationships to support their academic success.
Recommendations: A Pedagogical Perspective

The pedagogical recommendations that follow address issues shared by study participants and reflected in the conceptual framework regarding cultural and linguistic needs of international students. For many instructors and graduate students, the use of this conceptual framework with its accompanying pedagogical recommendations represents a significant departure from expected and commonly-used instructional strategies.

Linguistic Strategies

Language is one of the barriers that international students identified in this study. Instructors who understand and instructionally address the varying levels of students’ language proficiency are better prepared to provide equitable access to instruction for NNES international graduate students. The following strategies can assist instructors in thinking about course design and delivery of instruction.

Scaffold student learning. NNES international graduate students bring different levels of English language proficiency to the university classrooms. Some students converse well but do not have the same academic language proficiency as native speakers to fully participate in all aspects of instruction: reading content materials, academic writing, research projects, and interactive activities either in class or online. Others may have academic language proficiency in reading and writing but do not yet have the capacity to fully understand spoken language. International students’ English proficiency affects how fast and how well they read and write. They learn better when learning is scaffolded. George suggested, “when dealing with IS [international students], they [instructors] need to think we are different. English is one of our barriers. [Instructors should] try to be more . . . helpful. We need extra help.”

Instructional strategies that scaffold student learning include: organizing class activities and facilitating academic interactions among students and themselves in a way that enhances and clarifies linguistic and cultural contexts for all students. Instructors should carefully select reading materials, design appropriate course assignments and assessments, and use a variety of resources (e.g., visuals, texts, audios, videos) to support student learning in the classroom. Realizing that NNES international students, and possibly other students, need more time to process information, instructor expectations for timed reading and writing assignments may need to be adjusted. Instructors who intentionally employ scaffolding strategies are able to facilitate and further develop all students’ academic English relevant to the content area.

Increase linguistic awareness within the classroom environment. Because language plays an important role in teaching and learning, instructors should be aware of varying linguistic patterns among NNES international graduate students. Instructors should avoid culturally embedded terms and examples as well as slang, when explaining vocabulary and concepts in class. If used, these expressions should be introduced to the entire class to assure a common understanding by all students, including the international students. When delivering instruction in class, instructors should keep the following in mind with relation to their language: (a) simplify complex language; (b) keep it relevant to the content; (c) explicitly define culturally-embedded terms and expressions; and, (d) maintain a good rate of speech, paced so as to be comprehensible. In addition, key concepts may need to be reviewed or repeated to ensure students’ understanding.
Cultural Strategies

International students come to the classroom with different prior knowledge, experiences, and backgrounds, which affect how they learn and think in the classroom. Consequently, instructors should use a variety of instructional strategies to address different learning styles and preferences that ensure student success.

Internationalize teaching and learning: View culture as an instructional asset.
Instructors need to be aware of students’ different prior experiences and incorporate them in their plans for teaching and learning (Arkoudis, 2006). The following strategies can be used to accomplish these goals: cooperative learning in which students work together interdependently in small collaborative groups designed to accomplish a particular task or learning activity; reciprocal learning in which students take turns being the teacher and explain their learning and understanding to each other; small group discussions; and, comparisons of differing perspectives. Additionally, these strategies allow students to express their viewpoints while exploring commonalities, differences, and applications to course content. Instructional activities such as bringing in guest speakers with international or other cultural experience, fostering discussions that explore differing perspectives, and encouraging students to explore the curriculum from an international perspective, use cultures as assets in the learning process and help prepare all students for participation in a global society.

Understand students’ cultural backgrounds and expectations.
Tom suggested, “If you want more students to come . . . you should be more international.” Instructors should attempt to bridge cultural differences that may unintentionally hinder NNES international students’ learning in American higher education. These differences include but are not limited to students’ cultural expectations in relation to time, space, and social interactions as well as their expectations for knowing, teaching, and learning. Instructors should specifically and clearly communicate their expectations involving office hours, making appointments, grading procedures, asking for help with assignments and clarifications, class content, and test preparation strategies. By taking the time to be clear and explicit with expectations, instructors can addresses feelings of uncertainty in students and additionally build community and trust. Instructors and staff should be friendly and open when talking with all students in settings outside of the classroom: the gym, the library, before and after class, and other non-classroom locations when they encounter the students. Instructors should make sure that classroom activities include social interactions among students. Cooperative or reciprocal learning strategies and other types of group work facilitate the development of social relationships among students. In addition, students should be encouraged to take advantage of resources available on campus, as these opportunities expand their circle of social relationships, whether they are seeking assistance from the library or a tutoring center, working out at the gym, or attending a social event on campus.

Academic Strategies

The effectiveness of a lesson lies with instructional delivery in terms of student engagement, interaction with the content, student understanding of the content, and student performance. With the various linguistic and cultural backgrounds of NNES international students, instructors should be culturally responsive to students and focus on “teaching academic content in and through English” (Millar, 2009, p. 1) to ensure learning is meaningful to all.

Provide clear directions and course expectations. Because of varied prior schooling and linguistic backgrounds, NNES Asian international graduate students need clear and detailed directions in order to successfully engage with various academic tasks and procedures. For example, the syllabus should be very specific with detailed information about the design of the
course, textbooks, specific timelines, expectations as to how and where to submit assignments, and expected outcomes for students participating in the course. In addition, class activities and assignments should be clearly designed with detailed instructions. As Lisa said,

The syllabus is a good introduction to international students. [I] prefer professors to give specific syllabus and to give guidelines for assignments. If they are not clear, it is difficult to know what to do, how assignments should look, and so on. . . . I hope advisors can give international students more information about their schedules, internships.

Scaffold course rigor through pedagogical methods and strategies. To maintain rigorous course content and high standards instructors should use pedagogical strategies that engage all students. For NNES international students, cooperative learning is particularly effective and essential as it engages students in intellectually and culturally inclusive learning experiences, while expanding their language and social skills. Bruce’s recommendation for “one-one discussion/mentor between native speaker[s] and international student[s]” is one strategy for instructors to use that “gives more connection with school practices.” Cooperative learning groupings should reflect differences in students’ learning abilities as well as their ethnic and linguistic diversity. Guided reciprocal peer questioning, think-pair-share, cooperative debates, send-a-problem, graphic organizers with jigsaw, and talking chips are examples of cooperative learning activities to use in a scaffolded learning environment (Millis, 2010). These strategies create and provide a context for international and native English-speaking students to share and discuss content from their various perspectives.

Provide relevant research and field experiences. International Asian students participating in this study indicated an eagerness to gain knowledge and skills useful for their career when they return to their native countries. Bruce stated that “[international] students are interested in doing research during their studies . . . develop some type of research together.” Tom shared, “More internships and working experiences for graduate students would be helpful. [Instructors] should force the students to go out and do community experience to get the experience. Studying in the classrooms is not enough.” Whenever possible, instructors should provide, support, or encourage opportunities for them to engage in research, internships, and field experiences related to academic studies. NNES international graduate students expect and want to have opportunities to engage in real-life scenarios that provide them with practical experiences, to expand their knowledge, as well as to practice their language skills and cultural understandings in real-life contexts.

A Paradigm Shift for Professional Practice

Research has found that academia is aware of the learning needs of international graduate students (Beaven et al., 1998; Carroll & Ryan 2005; Lin & Yi, 1997; Millar, 2009). It has been our experience that many instructors who work with NNES international graduate students: (1) are not always aware of cultural and linguistic differences; (2) do not always scaffold their pedagogy and expectations in ways that promote success for all students; and consequently, (3) often miss opportunities to build a sense of community among a diverse student population within their courses. Instructors who know or value students’ cultures will be more likely to fully access, facilitate, and assess what their students know and can do (Ariza, 2010; Gay, 2000). How to best address these issues, however, is still not clear due to the widely diverse backgrounds of international graduate students (Ryan, 2005). All students, regardless of their linguistic and cultural backgrounds, should be supported to succeed academically, culturally, emotionally, intellectually, physically, and socially in a rigorous academic environment. Unfortunately, the academic culture
within higher education does not always foster learner-centered approaches to teaching, scaffolding to support differentiated learning and the development of social relationships as part of the support for academic learning (Huba & Freed, 2000). The following considerations may be used by instructors as they begin, continue, or deepen their paradigm shift.

**Employ Learner-Centered Instruction**

Learning is a social activity involving interactive, dynamic, collaborative processes and social interactions between instructors and students as well as among students. A learner-centered approach offers a structure within which instructors adapt instruction, assessment, and interaction among students. It represents a significant cultural shift within higher education. In using this approach, academic rigor is not only expected, it is supported. The instructor facilitates learning processes and creates equitable access to resources and content. At the same time, all students have the opportunity to further develop their academic skills in thinking, writing, speaking, and problem-solving, while deepening their content knowledge. Within this context, NNES international students are encouraged and guided to construct knowledge, synthesize information, develop essential questions, work collaboratively with others, and actively engage in the learning process.

Mere input or exposure to learning contexts is not enough to support international students’ academic success. By facilitating student engagement among peers, native-speakers of English and NNES international graduate students, instructors set the stage for deeper levels of learning and increased academic competencies for all students. The employment of learner-centered scaffolding by the instructor not only ensures student understanding of content, it also supports and develops students’ proficiency in academic English.

**Incorporate Linguistically and Culturally Responsive Pedagogies**

Learning, language, and culture are inextricably linked. Culturally responsive instructors assess students’ cultural knowledge, value and respect diversity, manage the dynamics of differences, and incorporate cultural knowledge in professional practice. By developing their own awareness of cultural and linguistic diversity, instructors recognize that the native language and culture of each individual student provide an additional set of tools or resources for learning and teaching (Genesee, Geva, Dressler, & Kamil, 2008; Pérez & Nordlander, 2004). Instructors should develop a rigorous academic foundation that continues to grow and change through the influence of their ever-changing student population as well as through new dimensions within their content area(s). Doing so provides a value-added dimension for the course, the program, and the institution while providing opportunities for students and instructors to expand their thinking to a broader global environment. Linguistic and cultural differences experienced by NNES international graduate students should be regarded as cultural assets, as opposed to academic deficits, and integrated into the learning process. In this way, instructors are able to build a practice that is both academically challenging and culturally responsive to all students.

**Expand Curricular Applications to Include Global Perspectives**

What is our curriculum in higher education? Is it focused on a local view, a regional view, a national view, or a global view? Are we able to define the similarities and differences for our students? Local students need to see a broader global context in order to better understand local applications in relationship to global ones. NNES international students may already bring with them the broader global context, but may not be proficient in sorting out local dimensions based on cultural and linguistic contexts. Learning processes should be supported by the histories, experiences and diverse linguistic and cultural backgrounds of all students participating in higher education settings. These cultural and linguistic adaptations prepare NNES international graduate
students as well as domestic graduate students to be more productive within international and/or global contexts.

**Discussion**

The challenges and differences impacting NNES international graduate students and the instructors who serve them have the potential to positively or negatively impact academic achievement for all students. These linguistic and cultural challenges also represent opportunities to change pedagogical practices, design high quality instruction, enhance student learning, and promote higher levels of academic rigor for all students.

> After 3 years in the U.S, I have learned a lot these couple of years and [I am] eager to learn more because I think I will lead a better life. [I am] a better thinker, a better writer, and student. [I] feel good about myself. People think differently about me. (George)

As instructors become more familiar and comfortable using a scaffolded, learner-centered, pedagogical framework that is culturally and linguistically responsive, all students will be more likely to achieve higher levels of success in an academically rigorous and meaningful graduate program of study. The students themselves provide an important resource. By listening to all students’ voices and understanding their perspectives, instructors develop the capacity to gain a deeper understanding of student needs. Instructors can use students’ cultural and linguistic strengths to adapt course design, enhance their own professional practices, and engage students across differences. These instructional practices support diversity awareness on and off college campuses, promote inter-group understanding and relations, and improve the capacity of all learners to engage in deeper levels of academic understanding while broadening students’ capacity to explore multiple perspectives.

> The pedagogical framework highlighted through the findings from this study provides insights to instructors interested in working more effectively with Asian (and other) NNES international graduate students. It may represent a paradigm shift from traditional approaches to instruction in higher education, but there is strong evidence supporting learner-centered, culturally and linguistically responsive pedagogical practices. These approaches require instructors to actively engage with learners in co-construction of knowledge, demonstrate cultural responsiveness, and develop linguistic awareness. In addition, these pedagogical changes may require intentional efforts and critical reflection by the higher education community when addressing the common phenomena: cultural, linguistic, and academic challenges experienced by NNES international graduate students.

> In order to create culturally and linguistically inclusive teaching and learning environments, instructors may need additional support and training. Supporting instructors as they develop or refine pedagogical practices within this framework will benefit the entire higher education learning community. Instructors’ implementation of the recommended framework will not only broaden the scope of domestic students to include a global perspective, it will also help international students better understand the differences and similarities between their cultural and linguistic backgrounds and those of other students and instructors with whom they interact. In general, the suggested framework promotes learning for all and enhances the experience for everyone involved.
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Comparison on the Developmental Trends Between
Chinese Students Studying Abroad and Foreign Students
Studying in China

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Abstract

China has been undergoing a new period of political stability, cultural prosperity, and social harmony since its reform and opening-up in the late 1970s. At the same time, the number of Chinese students studying abroad (CSSA) and foreign students studying in China (FSSC) has grown rapidly and steadily in the past three decades. With China’s participation in globalization, CSSA and FSSC are a significant part of China’s potential international human capital and, as such, CSSA and FSSC are in great need. Data of CSSA and FSSC in the past 34 years are collected and examined in this article, and the historical trends are depicted and compared. Relationships between the developments of CSSA and FSSC and the development of China’s economy can be validated and compared by regression analysis. The number of CSSA and FSSC in the next 10 years can be predicted by predicting China’s GDP in the same period, and the future parameters of CSSA and FSSC can be depicted and compared. The trends between CSSA and FSSC follow roughly similar trajectories in both absolute and relative growth.

Keywords: international students; mobility trends; study abroad strategy; educational comparison; China

Chinese students studying abroad (CSSA) can be traced back to 1872 when 120 children were recruited and sent to study in the United States of America by the Qing Government (Zhang, 2010). After the founding of the People’s Republic of China in 1949, the host countries of CSSA were mainly the Soviet Union and the socialist countries in Eastern Europe between 1949 and 1965, and most projects and activities of CSSA were suspended during the Cultural Revolution between 1966 and 1976 (Cheng & Miao, 2010; Zhang, 2010). A new period of CSSA started with China’s reform and opening-up in late 1970s, and CSSA has grown rapidly and steadily in the past three decades (Chen & Su, 2004; Cheng & Miao, 2010; Zhang, 2010).

With the rapid growth of numbers of CSSA, scholars have analyzed, reviewed and discussed the policies, problems, and trends of CSSA after the founding of the People’s Republic of China, especially since its reform and opening-up (Chen & Su, 2004; Liu, 2009; Cheng & Miao, 2010; Zhang, 2010; Su, Hu, & Zhang, 2011). However, Cheng & Miao (2010) indicate that it is difficult to precisely describe the 60-year history of CSSA because CSSA was understood differently by
different government agencies, and even the same agency in different periods, and data of CSSA from different sources are sometimes inconsistent.

In ancient times, foreign students studying in China (FSSC) started in the Spring and Autumn and the Warring States Periods (770 BC – 256 BC) and reached its zenith in the Tang Dynasty (618 AD – 907 AD). These periods can be regarded as periods of international cultural exchange (Cui, 2006). In Chinese literature, the modern history of FSSC is regarded to start from the founding of the People’s Republic of China. The home countries of FSSC were mainly the 12 socialist countries whose students composed 90.8% of FSSC in 1950-1966, whereas, most projects and activities of FSSC were suspended during the Cultural Revolution between 1966 to 1976 (Cui, 2006; Cheng & Hu, 2009). Just like CSSA, a new period of FSSC started with China’s reform and opening-up in late 1970s, and FSSC has grown rapidly and steadily in the past three decades (Cui, 2006; Cheng & Hu, 2009; Yu, 2009; Yang, 2009).

The trends, the underlying driving forces, and other issues of FSSC have been reviewed, analyzed, and discussed to facilitate the growth of FSSC. Chen & Cheng (2012) indicate that economic development, political stability, social harmony, and cultural prosperity are the prerequisites for the growth of FSSC. Cheng & Hu (2009) comment that economic growth is the fundamental factor driving the growth of FSSC, and Cui (2006) also argues that the great opportunity provided by China’s rapid economic growth is one of the main reasons for the growth of FSSC.

As globalization steadily accelerates, international exchange and cooperation also increases. International human capital, which develops as the result of exchange and cooperation between cultures, accordingly serves the larger society by bringing together common languages, cultures, and historical understanding. Thus, demands for international students, the potential vessels of international human capital, become more and more important for state planners and governments. In order to gain advantages in the competitive economy, politics, culture, and other areas, attracting international students is becoming a strategic choice in many countries. China’s participation in globalization demands large numbers of international students. At the same time, China’s rapid economic and social development provides great opportunities for international students to develop in their careers and to help realize their dreams and values. CSSA and FSSC, and their potential international human capital, are in great need in China.

Although reviews, analyses, and discussions about the trends of CSSA and FSSC can be found in the literature, credible data are lacking to form complete historical trends of CSSA and FSSC. Likewise the relationships between the development of China’s economy and the developments of CSSA and FSSC are still to be confirmed by empirical study, and the future trends of CSSA and FSSC are yet to be depicted in empirical research. Nevertheless, it is necessary for policy-makers, educators, and practitioners to have a clear understanding of the trends of CSSA and FSSC.

Therefore, questions considered with regard to the trends of CSSA and FSSC are:

1. What are the historical trends and characteristics of CSSA and FSSC since China’s reform and opening-up?
2. Is the development of China’s economy correlated to the developments of CSSA and FSSC?
3. If the answer to Question 2 is “yes”, what do regression equations predict about the future trends of CSSA and FSSC?
Methodology

The main strategy adopted for this research is based on statistical methods. The collection, analysis, and interpretation of the data form the core of this study. The data of CSSA and FSSC since China’s reform and opening-up were collected from authoritative sources and carefully checked and vetted to advance the understanding of historical trends of CSSA and FSSC. The data of China’s GDP were extracted from the database of UNCTADSTAT measured in U.S. dollars at constant prices and constant exchange rates in 2005 in order to be comparable across years. Regression analyses were conducted to explore relationships between the developments of CSSA and FSSC and the development of China’s economy. Predictions of future trends of CSSA and FSSC were made by regression modeling of the relationship between China’s economy and these trends. In addition, a statistic R, the ratio of the number of CSSA to that of FSSC, was constructed to depict the relative relationship of CSSA to FSSC.

Data

Since opening-up, data of CSSA and FSSC were widely collected and carefully examined. These data laid a reliable foundation for research. Data of CSSA came from three sources. The first one was the China Statistical Yearbook 2011, which was compiled by the National Bureau of Statistics of China and contained the total number of CSSA in 1978, 1980, and 1985-2010 (National Bureau of Statistics of China, 2011). The second one was the 2006 China Medical Statistics Yearbook, which was compiled by the Ministry of Health of the People’s Republic of China, and contained the total number of CSSA in 1978-2003 (Ministry of Health of the People’s Republic of China, 2006). The third one was the website of Ministry of Education of the People’s Republic of China, which issued the total number of CSSA in 2011 (Ministry of Education of the People’s Republic of China, 2012a).

Data of FSSC came from four sources. The first one was the website of the Ministry of Education of the People’s Republic of China, which issued the total number of FSSC in 2000-2001 and 2003-2011 (Ministry of Education of the People’s Republic of China, 2004a; 2004b; 2004c; 2005; 2008; 2009; 2010a; 2010b; 2010c; 2011; 2012b). The second one was the website of Xinhua News Agency, which reported the total number of FSSC in 2002 according to data published by the China Scholarship Council (China Scholarship Council, 2003). The third one was the website of China Association for International Education from which the total number of FSSC in 1999-2011 was collected (China Association for International Education, 2012). The fourth one was Fuzeng Yu’s (2009) 30-Year Education for Foreign Students Studying in China Since its Reform and Opening-up, which contained the total number of FSSC in 1978-2007.

Absolute Trends

In order to compare the historical trends of CSSA and FSSC after China’s reform and opening-up, the numbers of CSSA and FSSC in 1978-2011 are plotted in Figure 1. In the 34 years after China’s reform and opening-up, the cumulative number of CSSA reached 2.09 million, and the cumulative number of FSSC reached 2.25 million. The sum of the two reached 4.34 million. These data mean that CSSA and FSSC have constituted a huge international human resource for China in the modern era of globalization. From the trajectory of CSSA data, the number of CSSA grew slowly over the 20 years after China’s reform and opening-up, but the number of CSSA has accelerated since 2001. It is notable that the trajectory of FSSC neatly resembles that of CSSA, although with a smoother slope.
Do more Chinese students study abroad (CSSA), or do more foreign students study in China (FSSC)? The relative trend of CSSA and FSSC can be seen when the annual totals of CSSA and FSSC are plotted together. The ratio of the number of CSSA to that of FSSC is calculated to represent the relative size between CSSA and FSSC. The ratio is expressed as R in this article. When $R > 1$, the number of CSSA is greater than that of FSSC. When $R < 1$, the number of CSSA is smaller than that of FSSC. The ratios of the number of CSSA to FSSC from 1978 to 2011 are plotted in Figure 2.
In the 33 years after China’s reform and opening-up, the trajectory of the relative trend between CSSA and FSSC has been going up and down along the line $R = 1$. The number of CSSA was greater than those of FSSC in 1979-1980, 2001-2004, and 2010-2011 when $R > 1$. The number of CSSA was smaller than those of FSSC in 1978, 1981-2000, and 2005-2009 when $R < 1$.

**Relationships between Developments of CSSA and FSSC and Development of China’s Economy**

Economic development can be measured by gross domestic product (GDP), which is the market value of all officially recognized final goods and services produced within a country in a given period of time. China’s GDP is chosen as the statistic of its annual economic development in this article. In this article, China’s GDP in 1978-2010 is extracted from the database of UNCTADSTAT which was released by United Nations Conference on Trade and Development on February 29, 2012. In order to compare these historical GDP data, they are measured in constant prices and exchange rates of U.S. dollars in 2005 (United Nations Conference on Trade and Development, 2012a).

**China’s GDPs in 1978-2010**

In order to depict the trend of the economy after China’s reform and opening-up, its GDP in 1978-2010 is plotted in Figure 3.

![Figure 3. China’s GDPs in 1978-2010](image)

In the 33 years after China’s reform and opening-up, the economy has grown rapidly and persistently with its GDP going from 189 billion dollars in 1978 to 3.88 trillion dollars in 2010, a twenty-fold increase. At the same time, the global GDP–excluding China–has grown from 20.86 trillion dollars in 1978 to 47.16 trillion dollars in 2010, more than doubling in size but almost ten times less than the growth of China’s GDP.
Relationship between Numbers of CSSA and China’s GDPs

Are there any relationships between the rapid development of China’s economy and the developments of CSSA and FSSC? The number of CSSA in 2011 was available; however, the GDP in 2011 was missing. Therefore, the data of CSSA and GDP in 1978-2010 were analyzed. The correlation coefficient between CSSA and GDP was calculated with the value of 0.96, which shows a very strong correlation relationship between the number of CSSA and China’s GDPs.

Regression analysis was made to further explore the relationship between CSSA and GDP. In order to gain a better regression equation, linear regression and non-linear regressions (i.e., exponential, logarithmic, polynomial, and power regressions) were calculated and compared. The polynomial regression was chosen as the best representation of the data. Results are plotted in Figure 4. The regression equation is: \( y = 0.010977701x^2 + 29.77540742x - 10731.70658 \) (Equation 1), \( R^2 = 0.9523 \), and adjusted \( R^2 = 0.9491 \).

![Figure 4. Regression Analysis Results between Numbers of CSSA and China’s GDPs](image)

The regression effect is very strong. Analysis of variance shows that \( F(299.35) \) is much greater than the significance \( F(1.51E-20) \). This means that the regression equation is significant, and the p-values of coefficients of independent variables are much smaller than the significance level \( (p < 0.01) \). Therefore, GDP correlates with the number of CSSA.

Relationship between Numbers of FSSC and China’s GDPs

The number of FSSC in 2011 was available; however, the GDP in 2011 was missing. Therefore, the data of FSSC and GDP in 1978-2010 were analyzed. The correlation coefficient between FSSC and GDP was calculated with the value of 0.98, which also shows a very strong correlation relationship between the number of FSSC and China’s GDP.

Regression analysis was made to further explore the relationship between FSSC and GDP. In order to gain a better regression equation, linear regression and non-linear regressions (i.e., exponential, logarithmic, polynomial, and power regressions) were calculated and compared, and the polynomial regression was chosen as the best representation of these data. Results are plotted in Figure 5.
The regression equation is: \( y = 0.010129966x^2 + 35.9982362x - 9973.707318 \) (Equation 2), \( R^2 = 0.989701376 \), and adjusted \( R^2 = 0.9890 \).

The regression effect is very strong. Analysis of variance shows that \( F(1441.51) \) is much greater than the significance \( F(1.55E-30) \). This means that the regression equation is significant, and that the p-values of coefficients of independent variables are much smaller than the significance level (\( p < 0.01 \)), and therefore GDP correlates with the number of FSSC.

**Future Trends in 2011-2020**

Regression analysis shows that the numbers of CSSA and FSSC are significantly correlated with China’s GDP, and thus, the future trends of CSSA and FSSC can be predicted on the basis of these regression equations.

**Prediction of China’s GDPs in 2011-2020**

In order to predict CSSA and FSSC, China’s GDP in 2011-2020 need to be predicted. According to the prediction of the growth of China’s economy by the National Development and Reform Commission of China, the high, medium, and low growth rates in 2011-2015 will be 9.0%, 8.5%, 7.5% respectively. Growth rates in 2016-2020 will be 8.0%, 7.0%, and 6.0% respectively (Research Group of the National Development and Reform Commission of China, 2011). Table 1 displays the high, medium, and low GDP predictions for the period of 2011-2020.

GDP per capita is often considered an indicator of a country's standard of living. Based on China’s total population in 2011-2020 (UNCTADSTAT database), released by United Nations Conference on Trade and Development on March 8 2012 (United Nations Conference on Trade and Development, 2012b), the high, medium, and low GDP per capita of China in 2011-2020 can be calculated by dividing the total GDP by total population. Table 1 displays the predicted GDP Per Capita of China in 2011-2020.
Table 1. The Predicted GDP of China in 2011-2020, Unit: billion dollars

<table>
<thead>
<tr>
<th>Years</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>4233.04</td>
<td>4213.62</td>
<td>4174.79</td>
</tr>
<tr>
<td>2012</td>
<td>4614.01</td>
<td>4571.78</td>
<td>4487.90</td>
</tr>
<tr>
<td>2013</td>
<td>5029.27</td>
<td>4960.38</td>
<td>4824.49</td>
</tr>
<tr>
<td>2014</td>
<td>5481.91</td>
<td>5382.01</td>
<td>5186.32</td>
</tr>
<tr>
<td>2015</td>
<td>5975.28</td>
<td>5839.48</td>
<td>5575.30</td>
</tr>
<tr>
<td>2016</td>
<td>6453.30</td>
<td>6248.25</td>
<td>5909.82</td>
</tr>
<tr>
<td>2017</td>
<td>6969.57</td>
<td>6685.62</td>
<td>6264.40</td>
</tr>
<tr>
<td>2018</td>
<td>7527.13</td>
<td>7153.62</td>
<td>6640.27</td>
</tr>
<tr>
<td>2019</td>
<td>8129.30</td>
<td>7654.37</td>
<td>7038.69</td>
</tr>
<tr>
<td>2020</td>
<td>8779.65</td>
<td>8190.18</td>
<td>7461.01</td>
</tr>
</tbody>
</table>

China’s GDP will reach between 7.46 trillion dollars and 8.78 trillion dollars in 2020.

Table 2. The Predicted GDP Per Capita of China in 2011-2020, Unit: dollar

<table>
<thead>
<tr>
<th>Years</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>3141.25</td>
<td>3126.84</td>
<td>3098.02</td>
</tr>
<tr>
<td>2012</td>
<td>3408.70</td>
<td>3377.49</td>
<td>3315.52</td>
</tr>
<tr>
<td>2013</td>
<td>3699.71</td>
<td>3649.03</td>
<td>3549.07</td>
</tr>
<tr>
<td>2014</td>
<td>4016.72</td>
<td>3943.52</td>
<td>3800.14</td>
</tr>
<tr>
<td>2015</td>
<td>4362.34</td>
<td>4263.20</td>
<td>4070.33</td>
</tr>
<tr>
<td>2016</td>
<td>4695.88</td>
<td>4546.67</td>
<td>4300.40</td>
</tr>
<tr>
<td>2017</td>
<td>5056.66</td>
<td>4850.65</td>
<td>4545.04</td>
</tr>
<tr>
<td>2018</td>
<td>5446.99</td>
<td>5176.70</td>
<td>4805.22</td>
</tr>
<tr>
<td>2019</td>
<td>5869.33</td>
<td>5526.43</td>
<td>5081.91</td>
</tr>
<tr>
<td>2020</td>
<td>6326.34</td>
<td>5901.59</td>
<td>5376.17</td>
</tr>
</tbody>
</table>

China’s GDP per capita will reach between 5376 dollars and 6326 dollars in 2020.

**Absolute Trends**

On the basis of the regression equation of the number of CSSA and China’s GDP (Equation 1), the high, medium, and low number of CSSA in 2011-2020 can be predicted given the high, medium, and low predictions of GDP in 2011-2020.

Table 3. The Predicted Numbers of CSSA in 2011-2020, Unit: person

<table>
<thead>
<tr>
<th>Years</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>312,014</td>
<td>309,635</td>
<td>304,903</td>
</tr>
<tr>
<td>2012</td>
<td>360,358</td>
<td>354,842</td>
<td>344,001</td>
</tr>
<tr>
<td>2013</td>
<td>416,682</td>
<td>407,076</td>
<td>388,433</td>
</tr>
<tr>
<td>2014</td>
<td>482,389</td>
<td>467,501</td>
<td>438,971</td>
</tr>
<tr>
<td>2015</td>
<td>559,132</td>
<td>537,476</td>
<td>496,505</td>
</tr>
<tr>
<td>2016</td>
<td>638,586</td>
<td>603,888</td>
<td>548,642</td>
</tr>
<tr>
<td>2017</td>
<td>730,030</td>
<td>679,012</td>
<td>606,589</td>
</tr>
<tr>
<td>2018</td>
<td>835,363</td>
<td>764,046</td>
<td>671,027</td>
</tr>
<tr>
<td>2019</td>
<td>956,789</td>
<td>860,357</td>
<td>742,717</td>
</tr>
<tr>
<td>2020</td>
<td>1,096,871</td>
<td>969,508</td>
<td>822,514</td>
</tr>
</tbody>
</table>
With the high, medium, and low GDP, we can get the high, medium, and low prediction of the number of CSSA. The annual number of CSSA in 2020 will reach between 0.82 million to 1.1 million, and the cumulative number of CSSA in the period of 2011-2020 will reach between 5.36 million to 6.39 million.

On the basis of the regression equation of the number of FSSC and China’s GDP (Equation 2), the high, medium, and low number of FSSC in 2011-2020 can be predicted given the high, medium, and low predictions of GDP in 2011-2020.

Table 4. The Predicted Numbers of FSSC in 2011-2020, Unit: person

<table>
<thead>
<tr>
<th>Years</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>323,923</td>
<td>321,563</td>
<td>316,865</td>
</tr>
<tr>
<td>2012</td>
<td>371,781</td>
<td>366,330</td>
<td>355,612</td>
</tr>
<tr>
<td>2013</td>
<td>427,295</td>
<td>417,843</td>
<td>399,481</td>
</tr>
<tr>
<td>2014</td>
<td>491,784</td>
<td>477,194</td>
<td>449,200</td>
</tr>
<tr>
<td>2015</td>
<td>566,806</td>
<td>545,665</td>
<td>505,607</td>
</tr>
<tr>
<td>2016</td>
<td>644,197</td>
<td>610,432</td>
<td>556,568</td>
</tr>
<tr>
<td>2017</td>
<td>732,980</td>
<td>683,482</td>
<td>613,062</td>
</tr>
<tr>
<td>2018</td>
<td>834,930</td>
<td>765,937</td>
<td>675,727</td>
</tr>
<tr>
<td>2019</td>
<td>952,111</td>
<td>859,079</td>
<td>745,276</td>
</tr>
<tr>
<td>2020</td>
<td>1,086,918</td>
<td>964,366</td>
<td>822,510</td>
</tr>
</tbody>
</table>

With the high, medium, and low GDP, we can get the high, medium, and low prediction of the number of FSSC. The annual number of FSSC in 2020 will reach between 0.82 million to 1.09 million, and the cumulative number of FSSC in the period of 2011-2020 will reach between 5.44 million to 6.43 million.

The predicted number of CSSA and FSSC in 2011-2020 is plotted in Figure 6.

Figure 6. The Predicted Numbers of CSSA and FSSC in 2011-2020. As China’s economy grows in the next 10 years, the number of CSSA and FSSC will continue to grow.
The annual number of CSSA and FSSC in 2020 will reach between 1.64 million to 2.19 million. The cumulative number of CSSA and FSSC in the period of 2011-2020 will reach between 10.80 million to 12.82 million. The cumulative number of CSSA and FSSC over the next 10 years is about 3 times greater than that of the 33 years after China’s reform and opening-up.

**Relative Trend**

The relative size of CSSA to FSSC can be represented by the statistic R, the ratio of the number of CSSA to that of FSSC. The high, medium, and low ratios of the number of CSSA to FSSC in 2011-2020 can be calculated given the predicted high, medium, and low numbers of CSSA and FSSC in 2011-2020. This relationship depicts the relative trend of CSSA to FSSC. The predicted ratios are displayed in Table 5.

**Table 5. The Predicted Ratios of the Numbers of CSSA to FSSC in 2011-2020**

<table>
<thead>
<tr>
<th>Years</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>0.96</td>
<td>0.96</td>
<td>0.96</td>
</tr>
<tr>
<td>2012</td>
<td>0.97</td>
<td>0.97</td>
<td>0.97</td>
</tr>
<tr>
<td>2013</td>
<td>0.98</td>
<td>0.97</td>
<td>0.97</td>
</tr>
<tr>
<td>2014</td>
<td>0.98</td>
<td>0.98</td>
<td>0.98</td>
</tr>
<tr>
<td>2015</td>
<td>0.99</td>
<td>0.98</td>
<td>0.98</td>
</tr>
<tr>
<td>2016</td>
<td>0.99</td>
<td>0.99</td>
<td>0.99</td>
</tr>
<tr>
<td>2017</td>
<td>1.00</td>
<td>0.99</td>
<td>0.99</td>
</tr>
<tr>
<td>2018</td>
<td>1.00</td>
<td>1.00</td>
<td>0.99</td>
</tr>
<tr>
<td>2019</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>2020</td>
<td>1.01</td>
<td>1.01</td>
<td>1.00</td>
</tr>
</tbody>
</table>

The predicted ratios of the numbers of CSSA to FSSC in 2011-2020 are plotted in Figure 7.

![Figure 7. The Predicted Ratios of the Number of CSSA to FSSC in 2011-2020](http://jistudents.org)
In the next 10 years of 2011-2020, the three lines of high, medium, and low ratios overlap each other, which means that the high, medium, and low relative trends between CSSA to FSSC are almost the same. All the lines go up slightly across the years, and the lines nearly flat around the line R = 1. This means that the ratios between the number of CSSA to FSSC grow very slowly. However, the ratio is very close to 1, which means the number of CSSA and FSSC are about the same.

Discussion

Developments of CSSA and FSSC are related to economic and social factors. Similar conclusions are found in discussions and arguments in historical literature (Cui, 2006; Cheng & Hu, 2009; Chen & Cheng, 2012), but these haven’t been validated by empirical study. Quantitative research in this article proves that significant regression relationships exist between the number of CSSA, FSSC, and China’s GDP and that these relationships predict future trends of CSSA and FSSC.

Relationships between Developments of CSSA and FSSC and Development of China’s Economy

In the regression analysis of the relationship between the number of CSSA and FSSC and China’s GDP, every $R^2$ reaches or exceeds 0.95. This means that 95% of the variation in the number of CSSA and FSSC can be explained by China’s GDP. Thus, the development of China’s economy is one main factor influencing the development of CSSA and FSSC.

CSSA and FSSC are complicated economic and social phenomena, and they are affected by various economic and social factors. Thus, they cannot be explained by one single factor. In the regression equations, China’s GDP is the independent variable and the numbers of CSSA and FSSC are the dependent variables. Thus, the relationship between China’s GDP and the number of CSSA and FSSC are assumed–and treated as–cause and effect. Can 95% of variation in the numbers of CSSA and FSSC be explained by China’s GDP? How about the influence of other social factors?

The history of CSSA and FSSC before China’s reform and opening-up were severely affected by political, cultural, and other social factors. As outlined earlier, the host and home countries of CSSA and FSSC were mainly socialist countries in 1949-1965, and most projects and activities of CSSA and FSSC were suspended and stopped in the Cultural Revolution in 1966-1976 (Cui, 2006; Cheng & Hu, 2009; Cheng & Miao, 2010; Zhang, 2010). After China’s reform and opening-up, China has been undergoing a period of economic development, political stability, cultural prosperity, and social harmony which provide prerequisites for the development of FSSC (Chen & Cheng, 2012). The influences of political, cultural and other social factors on the developments of CSSA and FSSC after China’s reform and opening-up are very stable when compared to those before its opening-up. Therefore, in the regression analysis, political, cultural, and other social factors can be summed up as environmental factors. It can be assumed that the influences of these environmental factors are stable. Thus, their effect on number of CSSA and FSSC can be excluded from the regression equations. To reiterate, the environmental factors that influence the development of CSSA and FSSC are uniform across history; thus, they can be excluded from the establishment of the regression equations because a stable, uniform environment is a prerequisite of the regression analysis. If significant changes take place in environmental factors, and the influences of environmental factors are not stable, then the prerequisite of the regression equations disappears. Thus, the regression equations are not valid, and the predictions based on regression equations are likewise not valid either.
In the regression analysis, for convenience sake, it is assumed that some cause-effect relationship exists between China’s GDP and the number of CSSA and FSSC. In reality, relationships between CSSA and FSSC and GDP are two-way, interactive relationships that take place in society. The developments of CSSA and FSSC are influenced by various economic and social factors; and, in turn, CSSA and FSSC have influence in society’s economic and social development.

From the regression analysis results, it can be concluded that the influence of economic factors are significant, assuming that environmental factors influence developments of CSSA and FSSC uniformly. It can be learned that economic factors are a core issue, and economic factors are crucial to maintain and grow the number of CSSA and FSSC to keep the economy growing rapidly and persistently. Therefore, economic factors should be prioritized in making policies about CSSA and FSSC.

At the same time, it should be noted that China’s society will be influenced by the developments of CSSA and FSSC. As the number of CSSA and FSSC grows rapidly, changes in social hierarchy will take place. This will promote China’s economic and social developments, especially in constructing a harmonious environment for China’s international developments and its deepening globalization.

**Absolute Trend and Relative Trend**

Both absolute and relative trends of CSSA and FSSC are analyzed and compared in this article in order to present a comprehensive picture of their developments. In respect to the absolute trends of CSSA and FSSC, the numbers increase both in the past and in the future. A huge overseas talent reservoir consisting of CSSA and FSSC is growing and will continue to provide a pool of talented international human capital for China’s economic and social development.

In respect to the relative trend, the ratios of CSSA to FSSC have fluctuated within the range of 0.2 to 1.6, and the cumulative number of CSSA (1.75 million) was slightly smaller than that of FSSC (1.96 million) in the past 33 years. The ratios will continue to be close to 1 with a very narrow range of fluctuation, and the cumulative number of CSSA (5.36-6.39 million) and FSSC (5.44-6.43 million) approach each other in the next 10 years.

**Conclusion**

In this article, the number of CSSA and FSSC in the past 34 years are carefully collected and examined, and the historical trends are depicted and compared. Since its reform and opening-up, China’s political stability, cultural prosperity, and social harmony not only provide a good environment, but also become prerequisites for the development of CSSA and FSSC, currently in their unprecedented rapid-growth phase.

Based on a stable political, cultural, and social environment, regression analyses between the number of CSSA and FSSC and China’s GDP shows that a significant relationship exists between the developments of CSSA and FSSC and the development of China’s economy, and this indicates that China’s economy is a main factor influencing CSSA and FSSC. Lastly, through regression equations between the number of CSSA and FSSC and China’s GDP, the number of CSSA and FSSC in the next 10 years is predicted.
References


About the Author:

Xuezhi Liu is Professor and Vice President of the Chinese Academy of Personnel Science, the Ministry of Human Resources and Social Security, the People’s Republic of China. He acquired his Master Degree of Psychology at the Southwest China Normal University in 1992, and studied on Public Policy and Management at Duke University as a visiting scholar in 2004-2005. He has worked in the National Educational Examinations Authority of the National Committee of Education and the Personnel Testing Authority of the Ministry of Human Resources and Social Security. His research lies in the fields of personnel assessment, global brain circulation, public administration, and e-government. Corresponding Author: Xuezhi Liu, Chinese Academy of Personnel Science, No. 5, Yu Hui Li, Chaoyang District, Beijing, 100101, China Email: xuezhiliu@hotmail.com
Factors Caribbean Overseas Students Perceive Influence their Academic Self-Efficacy

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Albany State University (USA)

Stanley Baker, PhD
North Carolina State University (USA)

Abstract

This study investigated factors that influenced the academic self-efficacy of Caribbean overseas students attending universities in the United States, and the themes that emerged from their perceptions of variables impacting their academic self-efficacy. Seven major themes (educational background, faith in God, finances, age and maturity, influence and support of others, self-determination, and previous success of other and of self) emerged as factors that influenced the students' academic self-efficacy. Recommendations for counselors and areas for future research are discussed.

Keywords: Caribbean students, self-efficacy, academic self-efficacy, international students

The migration of international students to pursue degrees in higher education has become a consistent trend. These individuals are different from other immigrants who travel from their home countries to work and live in other cultures because their status is as temporary sojourners (Martin & Harrell, 1996). In 2004, the U.S. led the world in having the most students involved in international education (Arthur, 2004). Six years later, The Open Doors (2010) annual report, published by the Institute of International Education, reported that the U.S. continued to host more international students than any other country in the world. The report also stated that there were 723,277 international students at associates' level, bachelor's level, master's level and doctoral level enrolled in the colleges and universities throughout the U.S. during the 2010-2011 school year. This number represented 3.5% of all higher education students throughout the U.S.

There is a tendency to treat these sojourners as members of a homogenous group of learners (Arthur, 2004); however, the variability in their academic and personal preparation makes exploring their differences imperative. In addition, the lack of international standards for educational
programs in many countries leads to variability in the knowledge base of this group (Arthur, 2004). Arthur (2004) believes that the one size fits all view about academic performance may be unrealistic since international students come from different academic backgrounds. It can therefore be presumed that these transient immigrants will have varying levels of academic self-efficacy that is probably influenced by varying factors. Therefore, the intent for this study was to discover what Caribbean overseas students believed influenced their academic self-efficacy, while attending U.S. universities.

As the international student population continues to grow in the U.S. there is increased attention placed on the educational and mental health issues of these students to ensure that they are able to perform as expected academically (Mori, 2000). These students often experience various stressors related to academic and social interpersonal adjustment, financial concerns and language barriers (Chen, 1999). These adjustment stressors can affect a student’s general self-efficacy about navigating through the host culture. Although all of these stressors need to be considered, this study focuses on one possible stressor concerning academic self-efficacy.

The Open Doors, 2011 fact sheet, stated that there were 461,903 international students from the Asian region attending various universities throughout the United States. Not surprisingly, most professional literature about foreign students and their psychosocial and academic needs in the U.S. refers to Asian students (e.g., Indian, Chinese, Korean, and Japanese). Although the research data on Asian international students are helpful, these data are not always applicable to international and overseas students from other regions of the world. Therefore, there is a need to further explore issues, such as academic efficacy, that may be affecting other international sojourner populations.

Caribbean Overseas Students

The Caribbean overseas student population, the group of interest for the present study, is defined as individuals from that region who are in the United States to engage in academic activities. This group includes students from the U.S. Virgin Islands, the Bahamas, and some South American islands (Guyana, Suriname, and French Guiana) that are considered to be a part of the Caribbean geopolitically. Additionally, any student who grew up in the region, but may have been born elsewhere, including the United States, was also considered a Caribbean overseas student.

Much of the academic efficacy and performance information about this population is anecdotal and generalized. These students are generally thought to be successful. It is believed that students who grew up in the Caribbean bring a strong sense of academic efficacy with them to U.S. universities. For students from the former British colonies as well as the current ones, this efficacy is often attributed to them being immersed in the British school system model for most, if not all of their academic lives. In fact, some Caribbean people believe the system is superior to the U.S. school system. Anecdotally, parents from the French islands, Dutch countries, Spanish islands (e.g. Cuba, and Puerto Rico), and the U.S. Virgin Islands share a similar opinion that their academic school system is superior. It is also believed that strict and rigid parental control and a strong religious influence, motivate these students to do well and focus on academic activities to ensure success.

There appears to be no documented evidence that these students reported having a strong sense of academic efficacy while attending U.S. universities. If the unique psychosocial and academic needs of these students are to be met, the gap in the literature needs to be filled to ensure academic success and transition to the U.S. education system.
Theoretical Framework

Bandura’s (1963) social cognitive theory has linked students’ self-efficacy and motivation in academic settings. Moreover, there is extensive research literature showing that self-efficacy is a strong predictor of academic performance (Pajares, 1995) and emotional adaptation, such as adjusting to a new academic environment, is aided when a person has a strong sense of self-efficacy about their abilities and competence (Bandura, 1986). Maddux and Meier (1995) and Maddux (1995) stated that a strong sense of self-efficacy also helps individuals approach challenging situations without experiencing incapacitating anxiety and confusion.

Perceived self-efficacy is the belief individuals have about what they can do in different situations with whatever skills they have rather than a measure of skill (Bandura, 1997). People who demonstrate a strong sense of efficacy enhance their accomplishments and personal well-being (Bandura, 1994) because they have a high assurance in their capabilities and approach difficult tasks as challenges to be conquered and not avoided. Additionally, these individuals recover quickly from adversity and setbacks. On the other hand, individuals who doubt their capabilities shy away from difficult tasks, which they view as personal threats. They have low aspirations, a weak commitment to the goals they have chosen to pursue, dwell on personal deficiencies and obstacles they may encounter and other potentially adverse outcomes instead of concentrating on performing successfully. They reduce their efforts and readily give up when faced with a difficult situation. These individuals have a hard time recovering their sense of efficacy after failure or setbacks (Bandura, 1994, 1997).

Self-efficacy beliefs are constructed from four main sources of information: “Enactive mastery experiences that serve as indicators of capability; vicarious experiences that alter efficacy beliefs through transmission of competencies and comparison with attainment of others; verbal persuasion and allied types of social influences that one possesses certain capabilities; and physiological and affective states from which people partly judge their capabilities, strengths, and vulnerability to dysfunction” Bandura (1997, p. 79). Information that is relevant for judging personal capabilities is informative through cognitive processing of efficacy information and reflective thought. Therefore, a distinction must be drawn between information conveyed by experienced events and information selected, weighted, and integrated into self-efficacy judgment (Pajares, 2002).

As stated previously, efficacy beliefs play an influential meditational part in academic attainment (Bandura, 1997). Academic self-efficacy refers to students’ confidence in their ability to carry out academic tasks such as preparing for exams and writing term papers (Zajacova, Lynch, & Espenshade, 2005). Academic self-efficacy has been consistently shown to predict grades and persistence in college (Bandura, 1989; Lane & Lane, 2001; Owen, 1988; Poyrazli, Arbona, Nora, McPherson, & Pisecco, 2002). Bandura (1993) posits that self-efficacy beliefs affect college performance outcomes by increasing students’ motivation and persistence to master challenging academic tasks and by fostering efficient use of acquired knowledge and skills. In fact, efficacy beliefs are thought to be so important to academics that Bandura (1997) stated, “Perceived self-efficacy is a better predictor of intellectual performance than skills alone” (p.216).

Self-efficacy theory provides an important framework for evaluating the influence of studying overseas on Caribbean college students. Academic self-efficacy appears to be the most important form of self-efficacy to investigate. The goals of the present study were to discover factors that a sample of Caribbean overseas students perceived influenced their academic self-efficacy while attending U.S. universities, gather information about the most common themes
associated with those factors, and provide recommendations for counseling practice and further research.

**Research Method**

Grounded theory is used when little is known about a phenomenon (Morse & Field, 1995). It is also used to better understand research participants within their cultural context (Silverman, 2000). This approach was deemed to be the most appropriate since the intent of this study was to establish a relationship between the academic self-efficacy and culture shock among Caribbean overseas college students attending universities in the United States. For the current study, a modified grounded theory approach was utilized to analyze the data. Only the participants’ beliefs of factors that influenced their academic self-efficacy were sought. Grounded theory was also used to discover the participants’ main concern and how they continually tried to resolve it. The investigator’s role is to keep asking “what is going on?”, “what is the participant’s main problem”, and “how will they solve it?” The discovery process did not seek to explain how participants dealt with issues of academic self-efficacy, which is a construct of the grounded theoretical approach (Glasser, 1998) as it was not the intent to generate a theory about Caribbean overseas students and their academic self-efficacy. Not developing a theory is how the grounded theory approach was modified.

**Participants**

Seventy-two Caribbean overseas college students who grew up in the Caribbean participated in the study. Caribbean overseas students were chosen as opposed to Caribbean international students. Overseas students included those born in the U.S. but lived in the Caribbean and those who grew up in U.S. Caribbean countries. The rationale for including U.S. citizens was based on the assumption that their experiences were different from their Caribbean counterparts.

There were 44 women and 28 men (61.1% women and 38.9% men) who participated in the study, ranging in age from 18 to 41. The various islands where participants grew up were: Antigua and Barbuda, Aruba, the islands of the Bahamas, Barbados, Dominica, Grenada, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, Trinidad and Tobago, and the United States Virgin Islands (St. Thomas and St. Croix). Three participants reported having lived on multiple islands and two did not report where they grew up. Some participants were citizens of the U.S. The participants attended 25 different universities in 13 different states throughout the U.S. Most of the participants attended universities in Texas. Forty-eight of the participants were pursuing undergraduate degrees, 15 pursued master’s degrees, and nine pursued doctorate degrees. Forty-seven of the participants had non-immigrant visas, four were permanent residents, eight were U.S. citizens and 13 did not report their immigration classification. Most, participants (46) had been in the U.S. for five years or less. Ten participants were in the U.S. between six and 10 years and five had been in the U.S. for more than 10 years.

Several convenience-sampling strategies were used to recruit participants including Caribbean student associations (CSAs), Facebook.com, and Google.com searches. A list of name of the presidents and/or public relations officers of CSAs was compiled based on information gathered through Google.com searches and by acquaintances and friends of the primary investigator. An email was sent to the presidents or public relations officer and they were asked to forward an email with an embedded link to the survey for constituents. In some cases, because the e-mail addresses of members were public, e-mails were sent directly to the individuals. Other participants were also recruited through referrals from individuals who knew Caribbean students who may not have been on a listserv or part of an organization. These individuals were then sent an
email with the link embedded. The institutional review board of the university where the study originated approved the study.

Researchers’ Background

The first author was a 30-something year old West Indian female who was an international student in the Counselor Education doctoral program. She grew up both in the Caribbean and the southeastern region of the U.S. and she has been employed as a counselor in the U.S. and in the Caribbean. Since the first author has had experiences as a Caribbean overseas student, which could have created researcher bias, an auditor was employed to help alleviate bias.

The second author was a 70-something year old White male who had over 40 years of experience as a counselor educator. He grew up in the upper mid-western region of the U.S. and had been employed in two mid-Atlantic states before moving to North Carolina where he had resided for 16 years. He can be classified as a White, Anglo-Saxon Male (WASP). His work settings have led to interactions with and appreciation of individuals of virtually all cultural backgrounds, including the first author and principal investigator.

Instrumentation

The principal investigator, for the purpose of this study, designed a 22 question demographic questionnaire, consisting of multiple choice, Likert scale and open-ended questions. Participants were asked to provide information such as gender, age, educational level, islands where they grew up, visa type/residency status, and length of time in the U.S. Additionally, as part of the demographic questionnaire, participants were asked to complete a qualitative, short answer question. A working definition of academic self-efficacy was provided to the participants: The term “academic self-efficacy beliefs” refers to people’s beliefs about their capabilities to organize and execute courses of action required of them in an academic institution. Participants were also asked the following question: What are some factors that you believe influence (d) your academic self-efficacy here in the U.S.?

It is estimated that almost 200 prospective participants received an invitation to participate in the study, which was based on the number of members that the various Caribbean Students Associations had on their roster and the number of individual invitations that were sent out by the researcher. Therefore, it appears that approximately 36% of individuals who received invitations participated in the study.

Procedure

Data collection. The prospective participants received the link to the Web-based survey via email, either from the principal investigator or through one of the previously mentioned avenues. They were asked to follow the link to the survey website and to read an informed consent statement prior to deciding whether or not they wished to participate. One week after the initial invitation, a follow up e-mail was sent to participants as a reminder.

Data analysis. The responses were downloaded from surveymonkey.com as a data set rather than as individual responses and converted to a Microsoft Word document for analysis. The constant comparative method of simultaneously coding and analyzing the data was then employed (Glaser & Strauss, 1967). Working from the transcripts, the primary researcher read the downloaded data multiple times in order to refine the concepts, identify the properties, explore relationships and
enhance trustworthiness and authenticity. The data were sorted and coded and the codes were combined to identify themes (Basit, 2003).

Validity in its traditional sense is not an issue in grounded theory, which instead should be judged by fit, relevance, workability, and modifiability (Glaser & Strauss, 1967; Glaser, 1978; Glaser, 1998). For this study, as a modification of the grounded theory, only fit and relevance were utilized using only factors that influenced participants’ academic self-efficacy. How the participants’ academic self-efficacy affected their academic performance was not investigated. Relevance of a study refers to the real concern of participants, captures the attention, and is not only of academic interest. Additionally, since there were no existing data to compare the current data to, modifiability was not utilized for the study. In the current study the intent was not to generate a theory about Caribbean overseas students and how they utilized the factors that influence academic self-efficacy. Rather, the intent was to gather preliminary data about their perceptions about factors that affected their academic self-efficacy.

An auditor reviewed the codes and themes determined by the primary researcher in order to ensure fit, relevance, workability, and modifiability (Glaser, 1998). The auditor had prior experience using qualitative data analyses. She was a 37-year old African American woman from a rural community in the Southeastern U.S. who was not acquainted with the participants or with the study. The background of the study and a description of the data collection method were presented to the auditor prior to her participation. The auditor reviewed the raw data and the primary researcher’s analysis of the data, including the coding and the major themes the researcher had identified. The final themes were a result of discussions between the auditor and primary researcher following the auditor’s analysis. She was not directly involved with participants or with the study.

Results

The major emerging themes that participants attributed to their academic self-efficacy were: educational background, faith in God, finances, age and maturity, influence and support of others, self-determination, and previous success of other and of self.

Educational Background

Many of the participants attributed their academic self-efficacy to their educational background. Coming from a British influenced school system for primary, secondary, and tertiary levels (A-Levels) of education was one factor participants felt influenced their academic efficacy. Participant 1 stated, “Coming from the Caribbean where the academics is still mainly British, gives us a head start, when we come to America.” The British system, according to some participants, provided a strict environment that required them to be more disciplined than their American counterparts when attending universities in the U.S. Participants from non-British school systems, that is, Dutch and the U.S., also attributed their academic efficacy to their educational foundation in the Caribbean. Faith based school environments were also mentioned as affecting academic efficacy. Participant 7 stated that “going to Catholic school with a strict academic environment” has greatly influenced her/his current efficacy in the classroom.

Conversely, a few participants said that their academic self-efficacy was negatively affected as a result of their academic background in the Caribbean. Participant 9 reported that in America the education level was more advanced, therefore causing some academic difficulties; another reported that, although the Caribbean system gave Caribbean students a head start it also encouraged them to be somewhat lazy in U.S. classrooms, hence affecting their grade. It was reported that this laziness was a result of getting comfortable and sometimes bored with the information being taught, hence they did not feel the need to exert a lot of energy over in-class and out of class assignments.
Additionally, some older students reported that their past training in specific skills such as
genral and multiple disciplinary and teacher education training helped to boost their academic self-
efficacy. Participant 9 stated, “I had a solid foundation and had already developed the skills
necessary to succeed in a higher institution of learning.”

Faith in God

Several participants attributed their beliefs in their faith in God and their strong religious/spiritual
background. They also reported their academic efficacy was influenced by the knowledge that with
God’s help and with “His” guidance they could succeed. This knowledge, some reported, came
from their parents telling them that God would influence anything they did. This knowledge and
growing up in a church community also fueled academic efficacy.

Finances

Various issues related to finances and being in school were listed as factors that influenced
academic self-efficacy among the participants. A common theme was the high cost of education in
the United States for international students and the worries over how to pay for it. The difficulty of
acquiring a student loan and other financial aid required, as well as the general lack of personal
money was mentioned as sources of stress, hence sometimes adversely affecting academic efficacy.
Participant 10 stated that “taking a student loan [in his/her home country] isn't easy.” Additionally,
some participants reported that their parents were investing considerable amounts of money for
them to attend a university and accomplish their academic goals, which played a significant role and
was a source of positive motivation. This parental investment, some participants stated, encouraged
a positive belief in oneself. Participant 1stated, “my parents have invested a lot of money so that I
may accomplish this goal and so I think that plays a significant role in motivating me to do the best
that I can do to better myself and make them and myself proud.”

Age and maturity

Age and maturity were also reported as sources enhancing levels of academic efficacy when the
participants arrived in the U.S. to attend college. Coupled with age and maturity, they stated that
their responsibilities after high school, personally and professionally, contributed to their maturity.
These factors included the responsibilities of being the primary wage earner for their families and
previous work experience. For some participants their prior work experience helped their academic
efficacy since it provided prior experience in the field of study here in the US. Participant 7 stated,
“the fact that I came to school at such an older age and the fact that I worked before coming here
and get mature in the working world has impacted my belief in my abilities.” Additionally, some
reported that working in a strict work environment also helped them develop a sense of maturity
and good work ethic that they have used in the classroom and which has fostered a positive sense of
academic efficacy.

Influence and support of others

Participants reported parental influence as a source of positive academic efficacy. This influence
was reportedly manifested in various ways. Participants felt the need to live up to high parental
expectations. They also reported that parental encouragement impacted their beliefs in their
academic abilities. Participant 68 reported “that my parents told me I could excel.” This
encouragement was constant and was a motivator to perform even harder and provide the
confidence to be successful. Participants also reported that the encouragement and support from
extended family members (aunts and uncles), friends, high school counselors, college recruiters,
faculty and other mentors influenced their academic efficacy positively. A couple of participants reported that the academic and social support of fellow Caribbean students who were in the U.S. prior to their arrival and those who arrived around the same time helped them adjust to the new academic environment. The support and adjustment, they reported positively impacted their belief that they could be academically successful. Participant 69 stated, “It is helpful to have like-minded students around me.”

Participant 12 reported a different kind of influence. The individual stated that being an influence on younger siblings and cousins was a motivator. This motivation boosted academic efficacy since s/he felt like there was the need to do well, knowing that s/he was being emulated. Additionally, Participant 12 stated that this provided confidence in academic abilities, since a priority, “is to set a good example with the hope of being able to encourage them to do good in school so that they too could attend university.”

Self-determination

Another theme that surfaced was the participants’ self-determination. Many stated that the determination to excel and be successful helped them to believe in their ability to accomplish academic tasks required of them. Additionally, the willingness to work hard, learn and pay attention to details were also stated as contributing factors to academic efficacy. Participant 70 credited the belief in level of intelligence as a factor. The individual stated, “I consider myself to be fairly intelligent and so I know I can be successful in attaining my degree.” Other factors mentioned were self-motivation, strong-will, desire to achieve greatness in life in the “academic arena”, passion, wanting to have a better life for myself and the desire to increase self-development.

Previous success of other and of self

Participants stated that the past success of others around them and their own past success influenced their academic efficacy. Some stated that observing and learning experiences of others who were successful was helpful. They also stated the successes of other students before them served as an inspiration and signal that they could also be successful.

The academic success of family members, who attended university prior to the participants, was reported as having an impact on a participant’s academic efficacy. One participant stated that growing up with both my parents who had advanced degrees played a role while another reported that looking up to a very successful older brother also boosted academic efficacy.

Participants listed their own past success as a contributing factor to their belief of self in college. Some reported that they were always good students and worked hard to maintain grades. They stated their prior success helped them to believe that they could achieve their academic goals. Students, who received “impressive grades” during their undergraduate studies, reported yielding scholarships and as a result, their success encouraged them to continue doing well, which enhanced academic efficacy.

In addition to past and present success, some participants reported that the potential for future success boosted their academic efficacy. Some stated that they were aware that academic success could lead to a good job after college and that knowledge fueled their belief that they could be successful in college.
Discussion

The findings support Bandura’s (1997) theory that academic self-efficacy is influenced by mastery of experiences, vicarious experiences provided by social models, social persuasion and allied types of social influences, and physiological and affective states from which people partly judge their capabilities. The findings also support Zajacova et al. (2005) position that academic self-efficacy is a demonstration of a student’s confidence in her/his ability to carry out academic tasks. Participants in the current study indicated factors that influenced their academic self-efficacy; several themes associated with their academic self-efficacy emerged from the analysis of the interviews.

One goal for conducting this study was to empirically support or disprove the perception that a British school system had a strong effect on the academic efficacy of Caribbean overseas students. Hence, it was not surprising that “coming from a British educational system” was the most common reason reported to have influenced academic self-efficacy across the sample. Surprisingly, however, is that Caribbean overseas students who attended schools modeled from the U.S. and Dutch school system paradigm echoed the same belief as students from the British system that a Caribbean education provided them with confidence in their academic abilities. The anecdotes indicated that this academic background caused students to have a positive academic self-efficacy, excel, and find the U.S. academic setting to be an easy one. Therefore, it was unusual to discover, as one participant reported, that the American school system was difficult and more advanced than what s/he was used to, adversely affecting her/his academic self-efficacy. Often, Caribbean overseas students, especially those from a British background, reported having to get used to the differing teaching methods and testing formats in the U.S. but not about the difficulty of the advanced system.

Knowledge of “God” and “His” guidance as well as growing up in a strong church community were the main reasons why faith in “God” was an example of how social persuasion and allied types of social influences impact the participants’ academic self-efficacy. The participants did not specify their God. However, based on her own experiences with the Caribbean culture, the first author speculated that participants referred to the Christian God. This speculation was based on the idea that Christianity and Catholicism was the predominant religion in the Caribbean. However, the researcher was cognizant that this assumption was because of her own religious experiences and observations while living in the Caribbean. She was also cognizant that the assumption could be deemed a bias. Future research would help to clarify what Caribbean overseas students meant when they referred to “God”. Moreover, it would help to ascertain whether or not these students referred to a Christian God.

The most common reasons for how finances affected the academic efficacy of international students were the high cost of U.S. education, and lack of personal resources and financial aid to pay for the education. Finances had a significant influence on their academic efficacy because the participants believed that getting an education in the U.S. was a major investment. Some stated they were making the investment for themselves while parents were supporting them financially. Regardless of who made the investment, participants reported that it was important to do well, which in turn boosted their academic efficacy. This support in academic self-efficacy helped participants with financial challenges. Maddux and Meier (1995) and Maddux (1995) found that financial challenges motivated students’ academic self-efficacy and that a strong sense of self-efficacy would help them manage challenging situations without experiencing incapacitating anxiety and confusion.
Since the Caribbean is often thought of as a collectivist society (Delgado-Romero & Sanabria, 2007), input of parents, other family members and friends is not uncommon. Hence, it was not surprising that the support of parents, parental expectation and other family members and friends, were reported as boosters of academic self-efficacy. This input extended beyond academic support into personal issues individuals experienced. In keeping with the themes of influence of others, many participants reported that their academic efficacy was influenced by the previous success of family members and other Caribbean students. Some also reported that their own success contributed to their academic efficacy. Factors that influenced the academic self-efficacy of the participants were aligned with Bandura’s (1986, 1997) assertion that self-efficacy beliefs were constructed from sources of information. For these Caribbean overseas students, their sense of academic self-efficacy was informed by vicarious experiences (the success of others who attended university prior to participant), enactive mastery experience (personal previous success such as good grades), and verbal persuasion (the support and strong influence of family members).

Being surrounded and supported by other Caribbean overseas students who attended the same university or lived in the surrounding area while in the U.S. were also reported as having influenced academic efficacy. This is an example of what Bandura (1997) referred to as allied types of social influences. It is not surprising that being around other like students had a positive impact on the participants since they were from the Caribbean, which Delgado-Romero and Sanabria (2007) purported is often viewed as a collectivist society.

The limitations of the present study included having an unbalanced sample and having only one coder and auditor rather than a consensual approach. Most of the participants (n=33) attended a Texas university, which was known to have a strong Caribbean student’s Association that provided social support. Purposeful sampling was a challenge because potential participants were scattered throughout the U.S. In addition, one participant attempted to recruit other participants through sources which would have made the output unpredictable.

There are still gaps in the literature about Caribbean overseas students in the U.S. Therefore, continued research about this population and its psychosocial needs is necessary. Based on the themes established in the present study, several additional research questions seem important to consider. Knowledge about factors that positively influence academic self-efficacy would provide helpful information to determine possible strategies for working with students experiencing academic self-efficacy challenges. It would also provide counselors with possible interventions to better serve the students’ needs. Further investigation is needed to compare Caribbean overseas students with other Caribbean immigrants and Caribbean overseas students with overseas students from other nations. This comparison may provide helpful information about important similarities and differences. Using experimental studies to further analyze ideas gleaned from future descriptive research could prove to be helpful in determining the efficacy of intervention strategies designed to bolster academic self-efficacy.

Academic self-efficacy is confidence in one’s ability to carry out academic tasks (Zajacova et al., 2005). Additionally, research has shown that this efficacy is a predictor of grades and tenacity in college (Bandura, 1989; Lane & Lane, 2001; Owen, 1988; Poyrazli, Arbona, Nora, McPherson, & Piscocco, 2002) and influential in academic attainment (Bandura, 1997). Consequently, it is imperative that professionals working with Caribbean overseas students find ways to help them maintain or develop a healthy sense of academic self-efficacy to overcome obstacles they may encounter. One recommendation for working with students experiencing a low sense of academic efficacy is to help them cognitively process the difficulty of adjusting to the U.S. academic environment. This help might affect academic efficacy and students’ academic performance. Using a behavioral approach such as journaling about their thoughts and emotions with cognitive processing may be helpful when doing tasks they lack confidence in.
As globalization continues and individuals move fluidly across the world’s borders, interacting with international students will be inevitable for counselors and other helping professionals. Interest in helping these individuals be academically successful is an indication of the movement towards further acceptance and inclusion of diversity and multiculturalism. The findings of this study provide insight about academic efficacy, which could affect the academic success of many identified cultural groups on university campuses in the United States. Therefore, it would be incumbent upon counselors and other helping professionals to utilize the data in studies such as this one to develop models for serving Caribbean overseas students and other individuals who may be experiencing similar challenges.

References


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Are International Undergraduates Struggling Academically?

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Abstract

Are international undergraduates struggling academically, and are their struggles due to weaknesses in English as a second language? The present study showed that 1) at most 10% of these students in three cohorts (ranging in size from N=322 to N=695) at an American west coast public university struggled (quarterly grade point averages below C) in their university classes; 2) up to 63% of them struggled with English (they were required to take a local community college’s English Composition and/or English as a Second Language classes, and up to 42% earned course grades of D or F in those classes); and 3) predictors shown to be statistically significant by hierarchical linear modeling each accounted for less than 5% of the total variance (“small” effect sizes). These findings suggest that only a minority of this university’s international undergraduates struggle in their university classes even though a majority of them struggle with English.

Keywords: academic achievement, grade point average, international undergraduates, hierarchical linear modeling

“Our international undergraduates are struggling academically” is a generalization that some administrators, advisors, and faculty have asserted recently at a west coast public university in the United States. Administrators who have made this generalization additionally have stated that international undergraduates in general are eligible for academic probation, disqualification, or dismissal. Advisors who have made this generalization additionally have indicated that their appointments with international undergraduates in general are about academic struggles. Faculty who have made this generalization claim that international undergraduates’ English writing skills generally are deficient.

This generalization drew attention and it has been repeated even though it was anecdotal (the administrators, advisors, and faculty have not collected, statistically analyzed, or reported relevant data to support their generalization, to our knowledge). Repeating this generalization increases the likelihood of decisions that will be costly and/or ineffective due to the absence of guiding data about the allegedly struggling undergraduates’ numbers and characteristics such as applicant type (first-time freshman vs. transfer), class level, country of citizenship, gender, self-reported immigration (I-94) status, or major department. For example, decisions could be made to develop and implement specialized programs for all international undergraduates when, in reality, only a small percentage needs or would benefit from such programs.
In the absence of guiding data, one possible explanation for the repetition of this generalization is that an increase in the number of international undergraduates enrolled at the west coast public university has resulted in a proportional increase in the number of ones struggling academically rather than that academic struggles are a general characteristic of the university’s international undergraduates. For example, the number of enrolled international undergraduates who struggle academically could change from five out of 100 during one year to 10 out of 200 during the next and the proportion of struggling international undergraduates would be stable rather than increasing. Such a scenario could give an erroneous impression that the university’s international students in general are struggling academically when, in fact, only a consistently small proportion of international undergraduates struggles from one year to the next.

Many American universities have experienced increased enrollment of international undergraduates, as shown by the Institute for International Education’s (IIE) recent annual Open Doors snapshot survey (IIE, 2012a). This survey’s results showed that the total number of international students enrolled in fall 2012 was higher than in fall 2011 at 61% (340) of participating American universities. Moreover, academic year 2011–12 (AY1112) was the sixth consecutive year in which IIE’s Open Doors report showed an increase in the total number of international students in U.S. higher education—31% more international students studied at U.S. colleges and universities in AY1112 than a decade ago. New internationals enrolling in 2011 increased 7% from 2010, and this increase was largely attributable to Chinese undergraduates studying in the U.S. whose numbers were up 31% (IIE, 2012b).

An increase in the number of international undergraduates also has occurred at the aforementioned west coast public university (cf. IIE, 2012a,b). This university is one of the Open Doors snapshot survey’s 340 participants and its data in the snapshot survey show that it experienced an increase in international undergraduates in fall 2012 compared to the previous fall (IIE, 2012a). The number of new first-time international undergraduates (excluding transfers) at this university was 651 in fall 2012 which represents a 91.5% increase from the corresponding number for fall 2011—340. It stands to reason that the number of international undergraduates who seek advising about academic issues in AY1213 could be greater than in AY1112 simply because of the 91.5% increase rather than because these students, as a whole, are struggling academically.

To address administrators’, advisors’, and faculty’s concern that the west coast public university’s international undergraduates are struggling academically, the present study was conducted with the primary goal of determining what percentage of incoming international undergraduates do struggle academically as reflected by their grade point averages (GPA). Another goal was to evaluate how this percentage has changed relative to the number of these students admitted to this university; did it increase, stay the same, or decrease between years? To address administrators’, advisors’, and faculty’s concern that international undergraduates’ academic struggles are due to English weaknesses, the present study also evaluated the extent to which these students at the west coast public university showed evidence of struggling with English. Lastly, the present study investigated the potential role of other variables (such as applicant type, class level, country of citizenship, gender, self-reported immigration (I-94) status, or major department) in these students’ academic struggles.

**Literature Review**

Our internet-based literature search found very few published articles on international undergraduates’ academic struggles and/or GPAs while attending American universities (described below). Consequently, this literature review focuses primarily on recent developments that provide context for the present study’s goal to determine what percentage of incoming international undergraduates do struggle academically, and whether the struggles could be attributed to English language weaknesses or other characteristics of these students.
State government funding for American public universities has decreased since 2008. It declined nationwide by 7.5% in fiscal year 2010–11 and by an additional 0.4% in the current fiscal year (Kelderman, 2013). Total funding for public universities was 10.8% lower this year than before the 2008 economic downturn according to data released by Illinois State University’s Grapevine Project (2013).

To compensate for shrinking state government support, American public universities have increased their enrollment of international undergraduates as evidenced by IIE’s (2012b) Open Doors data. A likely explanation for this increase is that international undergraduates pay non-resident tuition fees that are higher than the resident fees paid by in-state undergraduates. However, the financial benefit of admitting an increasing number of international undergraduates is offset by the financial cost of providing additional programs and services to meet these students’ special needs regarding immigration regulations, career, academics, communication, culture, personal issues, and discriminatory treatment (Hanassab & Tidwell, 2002).

One approach that admissions offices could use to minimize costs associated with programs and services for international undergraduates’ special needs would be to accurately predict each applicant’s likelihood of academic success. Accordingly, research on international students historically has focused on identifying English proficiency-related indicators for evaluating applicants. Early studies measured the predictive power of international undergraduates’ scores on the Test of English as a Foreign Language (TOEFL), and these studies produced inconsistent results (reviewed by Graham, 1987; Johnson, 1988; Stoynoff, 1997)—some showed that TOEFL scores were positively correlated with international undergraduates’ GPA at American universities while others showed no correlation. A more recent study on undergraduates from China, Taiwan, Kuwait, Saudi Arabia, and the United Arab Emirates at a large state university found that a passing TOEFL score was no better at predicting academic success than a passing grade in English as a Second Language (ESL) class (Chen & Sun, 2006).

Indicators unrelated to English proficiency also have been studied for their potential usefulness in predicting international applicants’ future academic success. In particular, self-confidence and high school class rank (House, 2000), availability of a strong support person (Boyer & Sedlacek, 1988), self-efficacy, optimism, and academic expectations (Chemers, Hu & Garcia, 2001) were found to be significantly and positively related to international undergraduates’ academic success in American universities. Previous studies have not evaluated the predictive power of international undergraduates’ applicant type (first-time freshman vs. transfer), class level, country of citizenship, gender, self-reported immigration (I-94) status, or major department (cf. Hanassab & Tidwell, 2002; Nelson, Nelson & Malone, 2004; Ren & Hagedorn, 2012), to our knowledge.

Methods

Demographic and academic achievement data for three cohorts of the west coast public university’s incoming (new freshman and transfer) international undergraduates were extracted from the university’s student information system data tables. For the sake of consistency with U.S. Government regulations’ definition of non-immigrant international students (U.S. Department of State, n.d.), the three cohorts of non-resident aliens excluded domestic undergraduates and additionally excluded amnesty-seekers, applicants for permanent residency, asylees, permanent residents, refugees, and undocumented individuals. These cohorts of international undergraduates began attending the university in fall 2009 (FA09), fall 2010 (FA10), and fall 2011 (FA11) respectively. The reasons for using these particular cohorts in the present study were 1) these fall quarters were the most recent ones for which grade point averages (GPAs) were available at the time
this study was conducted, and 2) the international undergraduates who entered in FA09 represented a “baseline” year preceding the ones who entered in FA10 for whom the Admissions Office piloted enhanced recruitment procedures (virtual outreach tools) targeting international applicants, and the ones who entered in FA11 were the first for whom these procedures were fully implemented. The Admissions Office’s enhanced recruitment procedures (attending virtual fairs, distributing recruitment materials electronically, collecting information from overseas high schools, and attending college fairs in the U.S. that provided opportunities for direct contact with foreign high school officials) were intended to increase the “yield” of international applicants accepting the offer of admission, and were in response to the university’s shortfall of state funding. Consequently, the university’s administrators had a strong need for and interest in academic achievement (GPA) data for these three cohorts of international undergraduates which the present study was designed to fulfill.

To extract longitudinal demographic and academic data plus SAT and TOEFL scores (described below) for the three cohorts of the west coast public university’s international undergraduates from the university’s student information system databases, structured query language (SQL) programs were written and executed. The SQL programs also extracted each international undergraduate’s unique campus ID and first and last names to ensure that every academic quarter’s and year’s data were correctly organized within appropriate records in data files for the statistical analyses described below. To protect confidentiality, prior to the statistical analyses, unique dummy IDs were assigned to each international undergraduate in the extraction files, then the files were duplicated and personally identifiable data (IDs; first and last names) were permanently deleted. This procedure was IRB approved.

The statistical procedures performed on these data files to determine what percentage of international undergraduates struggled academically and the degree to which their struggles were related to weaknesses in English language included descriptive and correlational analyses (using StatView software). Authentic 0.00 GPAs (e.g., all course grades of F in an academic quarter’s classes) were included, artifactual ones (e.g., all “Pass” in an academic quarter’s classes) were excluded. GPAs below 2.0 (C) are considered “struggling” and ones at or above 3.5 (between B+ and A-) are considered “excelling” at the west coast public university.

To evaluate the potential role of other variables (such as applicant type, class level, and major department) in the three cohorts of international undergraduates’ academic struggles, we also performed hierarchical linear modeling (HLM; using HLM 6 software; Raudenbush & Bryk, 2002) analyses and computed the effect sizes of all predictor variables. Each of our models was run with only one predictor at a time, and most of our predictor variables were dummy-coded. These included applicant type (first-time freshman vs. transfer), country of citizenship (China vs. all others; see explanation below), gender (male vs. female), self-reported immigration (I-94) status (F1 vs. all others), and major department (math vs. all others, economics vs. all others, engineering vs. all others, computer science vs. all others). We selected departments where weakness in English language might play more (or less) of a role in international students’ academic struggles. Class level (freshman, sophomore, junior, senior) was left as an ordinal predictor variable. The dependent variable in these analyses was quarterly GPAs.

The primary reason for using HLM to evaluate the potential role of the above variables in international undergraduates’ academic struggles rather than using other statistical tests (such as analysis of variance) which involve ordinary least squares estimation is that HLM provides better parameter estimates when data are hierarchically structured (Osborne, 2000; Raudenbush & Bryk, 2002). An additional reason is that HLM, in conjunction with maximum likelihood estimation, uniquely handles missing data, thereby precluding the need to exclude students who lack at least one academic quarter’s data (due to leave of absence, withdrawal, etc.), and precluding the need to use imputations (which can be controversial; Little & Rubin, 2002).
The HLM analyses also addressed one additional question—are permanent residents (PR) and/or undocumented (OT) undergraduates the students with academic struggles rather than internationals? To address this question, we included PR and OT undergraduates (but not domestics) in another set of record extractions from the university’s student information system similar to the three international cohorts’ records described above and included them in the HLM analyses.

Results

Descriptive Analyses

The total numbers of new international undergraduates—first-time freshmen (NFRS) and transfers (TRAN)—registering for classes at the west coast public university have increased over recent years as shown in Figure 1. The FA10 cohort is 36.4% larger than the FA09, the FA11 cohort is 56.4% larger than the FA10, and the FA12 cohort is 44.0% larger than the FA11 (the FA 12 cohort is included only in Figure 1 to demonstrate the trend; GPA data for this cohort were not yet available at the time of the present study).

Figure 1. The number (above each bar) of and year-to-year percentage change (within the last three bars) in international undergraduates registered for classes at the west coast public university in the present study has increased consistently between fall 2009 (FA09) and fall 2012 (FA12). Abbreviations: FA10=fall 2010; FA11=fall 2011

Demographic data for the three cohorts are presented in Table 1. This study focused on comparing international undergraduates from China with counterparts from other countries (including but not limited to Hong Kong, India, South Korea, and Taiwan) because 1) China has become the predominant country of citizenship for international undergraduates attending the west coast public university in the present study (as reflected by the dramatic increase in Chinese undergraduates between FA09 and FA11 compared with the corresponding increase in all others; Table 1), and 2) Chinese undergraduates anecdotally are perceived at this university as the ones most likely to have English weaknesses. International undergraduates majoring in the departments listed in Table 1 anecdotally are perceived on campus as the ones most likely to have English weaknesses (these majors allegedly are less sensitive to English weaknesses, hence international undergraduates with English weakness prefer them according to the anecdotes).
Table 1

Demographic Characteristics of the Three International Undergraduate Cohorts Admitted in Fall 2009 (FA09), Fall 2010 (FA10), or Fall 2011 (FA11)

<table>
<thead>
<tr>
<th>Demographic</th>
<th>FA09</th>
<th>FA10</th>
<th>FA11</th>
<th>% increase from FA09 to FA11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicant type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>new freshmen (NFRS)</td>
<td>69</td>
<td>155</td>
<td>337</td>
<td>388.4</td>
</tr>
<tr>
<td>transfer students (TRAN)</td>
<td>253</td>
<td>286</td>
<td>358</td>
<td>41.5</td>
</tr>
<tr>
<td>Total</td>
<td>322</td>
<td>441</td>
<td>695</td>
<td>115.8</td>
</tr>
<tr>
<td>Class level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>freshman</td>
<td>62</td>
<td>147</td>
<td>323</td>
<td>421.0</td>
</tr>
<tr>
<td>sophomore</td>
<td>15</td>
<td>10</td>
<td>18</td>
<td>20.0</td>
</tr>
<tr>
<td>junior</td>
<td>243</td>
<td>283</td>
<td>350</td>
<td>44.0</td>
</tr>
<tr>
<td>senior</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>322</td>
<td>441</td>
<td>695</td>
<td>115.8</td>
</tr>
<tr>
<td>Country</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>35</td>
<td>110</td>
<td>310</td>
<td>785.7</td>
</tr>
<tr>
<td>all others(^a)</td>
<td>287</td>
<td>331</td>
<td>385</td>
<td>34.1</td>
</tr>
<tr>
<td>Total</td>
<td>322</td>
<td>441</td>
<td>695</td>
<td>115.8</td>
</tr>
<tr>
<td>Department</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Science and Engineering</td>
<td>11</td>
<td>17</td>
<td>44</td>
<td>300.0</td>
</tr>
<tr>
<td>Economics</td>
<td>137</td>
<td>172</td>
<td>251</td>
<td>83.2</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>8</td>
<td>14</td>
<td>36</td>
<td>350.0</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4</td>
<td>15</td>
<td>47</td>
<td>1,075.0</td>
</tr>
<tr>
<td>all others</td>
<td>162</td>
<td>223</td>
<td>317</td>
<td>95.7</td>
</tr>
<tr>
<td>Total</td>
<td>322</td>
<td>441</td>
<td>695</td>
<td>115.8</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>female</td>
<td>157</td>
<td>214</td>
<td>303</td>
<td>93.0</td>
</tr>
<tr>
<td>male</td>
<td>165</td>
<td>227</td>
<td>392</td>
<td>137.6</td>
</tr>
<tr>
<td>Total</td>
<td>322</td>
<td>441</td>
<td>695</td>
<td>115.8</td>
</tr>
</tbody>
</table>

Note. \(^a\)All other countries include (but are not limited to) Hong Kong, India, South Korea, Taiwan, plus others for which fewer than three students attended the university.

Academic achievement data for the three cohorts are shown in Figures 2, 3, and 4. Figure 2 contains each of the three cohorts’ mean GPAs for each of the three academic quarters (fall, winter, and spring) of the year in which they entered the west coast public university (AY0910 for the FA09 cohort, and so on). The international undergraduates in these cohorts, in general, earned a GPA between 2.8 and 3.1 (roughly between B- and B). Figure 3 contains the percentage of each of the three cohorts that earned GPAs below 2.0 (i.e., struggled academically) and Figure 4 contains the corresponding percentages that earned GPAs at or above 3.5 (i.e., excelled academically). The percentages show that only a tenth or fewer of international undergraduates in these cohorts struggled academically and a larger minority (between a quarter and a third) excelled academically.
Figure 2. The mean quarterly GPA (above each bar) ranged from 2.86 (between B- and B) to 3.07 (just above B) for each of the three international undergraduate cohorts registered for classes at the west coast public university in the present study. These GPAs were higher than the value (below 2.0) considered to be “academically struggling” at this university.

Abbreviations:
FA09=fall 2009; WI10=winter 2010; SP10=spring 2010; FA10=fall 2010; WI11=winter 2011; SP11=spring 2011; FA11=fall 2011; WI12=winter 2012; SP12=spring 2012.

Figure 3. The percentage of each of the three international undergraduate cohorts in the present study that had a quarterly GPA below 2.0 (“struggled academically”) ranged from 6.8 to 10.2. These percentages are less than what would be expected if GPAs were distributed normally.

Abbreviations:
FA09=fall 2009; WI10=winter 2010; SP10=spring 2010; FA10=fall 2010; WI11=winter 2011; SP11=spring 2011; FA11=fall 2011; WI12=winter 2012; SP12=spring 2012.

Figure 4. The percentage of each of the three international undergraduate cohorts in the present study that had a quarterly GPA at or above 3.5 (“excelled academically”) ranged from 23.1 to 36.8. These percentages exceeded the corresponding percentages that struggled academically.

Abbreviations:
FA09=fall 2009; WI10=winter 2010; SP10=spring 2010; FA10=fall 2010; WI11=winter 2011; SP11=spring 2011; FA11=fall 2011; WI12=winter 2012; SP12=spring 2012.
While the number of the west coast public university’s international undergraduates who earned GPAs below 2.0 (i.e., struggled academically) amounted to a tenth or less, the percentage with demonstrable English weaknesses was higher as evidenced by the data in Figure 5. This figure shows the percentage of each of the three cohorts’ F1 (self-reported I-94 status) NFRS who were required to attend a local community college’s English Composition and/or ESL class (this requirement is part of the university’s entry level writing requirement for undergraduates). This percentage increased across the cohorts (reaching almost two-thirds of the FA11 cohort). Further evidence of these undergraduates’ English weaknesses appears in Table 2. This table includes the percentages of the three cohorts’ F1 (self-reported I-94 status) NFRS who earned a D or F in these community college writing and ESL classes. Although this percentage increased across the cohorts (reaching more than a third of the FA11 cohort), these students’ mean FA GPA in their university classes was between 3.24 and 3.33 (roughly between B and B+). Less than one tenth of them earned GPAs below 2.0 (Table 2).

![Figure 5. The percentage of international new freshman undergraduates (NFRS) in F1 I-94 status who were required to take a local community college’s English Composition or English as a Second Language class has increased during the past three fall quarters at the west coast public university in the present study.](image)

<table>
<thead>
<tr>
<th>Cohort</th>
<th># F1 NFRS</th>
<th># (%) required to take CC classes</th>
<th>% who earned D or F in CC classes</th>
<th>Mean FA GPA in university classes of F1 NFRS required to take CC classes</th>
<th># (%) who earned GPA &lt;2.0 in university’s FA classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA09</td>
<td>48</td>
<td>18 (37.5)</td>
<td>5.6</td>
<td>3.33</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>FA10</td>
<td>121</td>
<td>57 (47.1)</td>
<td>10.5</td>
<td>3.24</td>
<td>3 (5.3)</td>
</tr>
<tr>
<td>FA11</td>
<td>319</td>
<td>200 (62.7)</td>
<td>42.0</td>
<td>3.31</td>
<td>13 (6.5)</td>
</tr>
</tbody>
</table>

*Note. Abbreviations: CC=community college; FA=fall quarter*
Correlation Analyses

To evaluate the potential role of English weaknesses (especially writing) in international undergraduates’ academic struggles, we performed correlation analyses between these students’ scores on English proficiency tests (TOEFL, Scholastic Aptitude Test (SAT), or the west coast public university’s writing exam) and corresponding AY GPAs (AY0910 for the FA09 cohort, and so on). Significant positive correlation coefficients are indicative that the test score included in the analysis is a predictor of the quarterly GPA included in the analysis—the higher the test score, the higher the quarterly GPA; the lower the test score, the lower the quarterly GPA.

Table 3 shows the statistically significant results of these correlational analyses for F1 NFRS only (these are the international undergraduates of particular concern/interest for campus policy and programming purposes). SAT math was the only one of the aforementioned scores that consistently predicted the cohorts’ mean GPAs; however, these significant SAT math correlations ($r$ between 0.15 and 0.3) fall within the range of “small” (magnitude) effect sizes (Cohen, 1988). None of the aforementioned English proficiency tests consistently correlated with mean GPAs; the only significant correlations were between the FA10 cohort’s SAT writing scores and FA10 GPAs, and between the FA10 cohort’s writing exam scores and FA10 GPAs (Table 3).

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Predictor</th>
<th>Quarter</th>
<th>$r$</th>
<th>$df$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA09</td>
<td>SAT math</td>
<td>FA09</td>
<td>0.27</td>
<td>48</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>SAT math</td>
<td>WI10</td>
<td>0.30</td>
<td>48</td>
<td>0.05</td>
</tr>
<tr>
<td>FA10</td>
<td>SAT math</td>
<td>FA10</td>
<td>0.23</td>
<td>111</td>
<td>&lt;.05</td>
</tr>
<tr>
<td></td>
<td>SAT math</td>
<td>WI11</td>
<td>0.23</td>
<td>109</td>
<td>&lt;.05</td>
</tr>
<tr>
<td></td>
<td>SAT math</td>
<td>SP11</td>
<td>0.26</td>
<td>107</td>
<td>&lt;.01</td>
</tr>
<tr>
<td></td>
<td>SAT writing</td>
<td>FA10</td>
<td>0.32</td>
<td>111</td>
<td>&lt;.01</td>
</tr>
<tr>
<td></td>
<td>writing exam</td>
<td>FA10</td>
<td>0.29</td>
<td>109</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>FA11</td>
<td>SAT math</td>
<td>FA11</td>
<td>0.23</td>
<td>300</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td></td>
<td>SAT math</td>
<td>WI12</td>
<td>0.21</td>
<td>294</td>
<td>0.0003</td>
</tr>
<tr>
<td></td>
<td>SAT math</td>
<td>SP12</td>
<td>0.15</td>
<td>295</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Note. Abbreviations: $r$ = correlation coefficient, $df$ = degrees of freedom, $p$ = probability (significance level)

HLM Analyses

The data extracted for the HLM analyses yielded 982 undergraduates’ records (including PRs and OTs, excluding domestics) for the FA09 cohort, and these undergraduates had a total of 2,894 term GPAs used in the HLM analyses. Consequently, on average, each FA09 undergraduate in the HLM analyses had about three academic quarters ($M = 2.95$) of GPA data. The corresponding values for the FA10 cohort were 1,151
undergraduates, 3,396 term GPAs, and an average of almost three academic quarters (M = 2.95) of GPA data per student. The FA11 cohort’s values were 1,274 undergraduates, 3,752 term GPAs, and an average of almost three academic quarters (M = 2.95) of GPA data per student.

In the current study, all of our models were run with only one predictor at a time and primary analyses were conducted on two-level models. GPA (the dependent variable) is considered a lower-level (level-1 or time-varying) variable, whereas the various predictors are considered higher-level (level-2 or stable) variables. These included applicant type (NFRS; TRAN), class level (freshman, sophomore, junior, and senior), country of citizenship (i.e., China), gender, I-94 status (i.e., F1), and major department (e.g., Economics, Mathematics). An example model is shown below.

\[
\text{Level 1: } \text{GPA} = \beta_0 + r_i \\
\text{Level 2: } \beta_0 = \gamma_0 + \gamma_0(\text{Class Level}) + u_j
\]

For each HLM model, only statistically significant results are presented in Table 4. This table shows that the FA09 cohort’s class level was a significant predictor of GPA—as class level increased, GPA decreased (indicated by the negative regression coefficient). Applicant type, country of citizenship, and major department were all significant predictors of GPA—NFRS, Chinese students, and Mathematics majors had higher GPAs compared to TRAN, non-Chinese students, and all other majors, respectively. Gender and self-reported immigration (I-94) status were not significant predictors of quarterly GPAs.

Table 4
Statistically Significant Predictors of GPA from the Hierarchical Linear Modeling Analyses

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Predictor</th>
<th>$\beta$</th>
<th>$SE\beta$</th>
<th>$p$</th>
<th>$sr^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA09</td>
<td>Applicant type</td>
<td>-0.129</td>
<td>0.039</td>
<td>0.001</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>Class level</td>
<td>-0.039</td>
<td>0.020</td>
<td>0.051</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>Country of origin</td>
<td>0.142</td>
<td>0.051</td>
<td>0.006</td>
<td>0.008</td>
</tr>
<tr>
<td></td>
<td>Department</td>
<td>0.344</td>
<td>0.135</td>
<td>0.012</td>
<td>0.004</td>
</tr>
<tr>
<td>FA10</td>
<td>Applicant type</td>
<td>-0.096</td>
<td>0.036</td>
<td>0.008</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>Country of origin</td>
<td>0.182</td>
<td>0.042</td>
<td>&lt;.001</td>
<td>0.019</td>
</tr>
<tr>
<td></td>
<td>Department</td>
<td>0.206</td>
<td>0.085</td>
<td>0.015</td>
<td>0.004</td>
</tr>
<tr>
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*Note.* Abbreviations: $\beta =$ HLM model’s regression coefficient; $SE\beta =$ standard error of the regression coefficient; $p =$ probability (significance) level; $sr^2 =$ semi-partial correlation squared (analogous to $R^2$), the proportion of variance accounted for in linear regression.
The FA10 cohort’s results were the same with one exception—class level was not a significant predictor of GPA. The FA11 cohort’s results also were the same as the FA09’s with one additional predictor—self-reported immigration (I-94) status was significant (i.e., F1 visa holders had higher GPAs than the PRs, OTs, and other visa status immigrant students). With regard to the aforementioned additional question, are PR and/or OT undergraduates the students with academic struggles rather than internationals, the above results are consistent with the view that the PRs and OTs probably are not the students that administrators, advisors, and faculty at the west coast public university have referred to when repeating the generalization that “international students are struggling academically.”

Although the HLM analyses revealed that the above predictors were statistically significant, each one accounted for less than five percent of the total variance. They consequently fall within the range of “small” (magnitude) effect sizes (Cohen, 1988).

Discussion

The current study’s primary goals were to 1) systematically evaluate whether international undergraduates at the west coast public university in this study actually are struggling academically, and 2) statistically determine whether the struggles could be attributed to English language weaknesses and/or related to other variables. Regarding the first goal, the present findings do not support anecdotal reports that international students at this university in general are struggling academically; at most a tenth of the FA09, FA10, and FA11 cohorts earned GPAs that met the campus definition of “struggling”—below 2.0 (C or “average”). However, regarding the second goal, the present findings do indicate that an increasing percentage of F1 NFRS has English weaknesses as indicated by required participation and course grades in community college English classes. We conclude from these findings that the majority of the west coast public university’s international undergraduates are not struggling academically, that the struggling ones comprise only a small percentage of these students, and that the three cohorts generally succeeded in their university classes despite evidence of struggling with English (shown in Table 2).

If the percentage of academically struggling international undergraduates is small, then what accounts for anecdotal reports that these students generally are struggling? This west coast public university historically has provided strong support to its international undergraduates through a wide range of programs and services (e.g., orientations; academic and immigration advising; one-on-one English tutoring; social and cultural events; etc.), therefore anecdotal reports of academic struggles cannot readily be attributed to a lack of assistance and/or support. Instead, one possible explanation is that the reports are a side effect of annual increases in international undergraduates entering this university. It stands to reason that as more international undergraduates attend any American university, the number who struggle academically likely will increase also. Importantly, however, the percentages of international undergraduates who struggle academically were shown to remain relatively stable (one tenth or less) in the present study, and these percentages are less than what would be expected if GPAs were distributed normally (approximated a Bell curve). An alternative explanation is that the struggling undergraduates include immigrant (applicants for permanent residency, amnesty-seekers, asylees, permanent residents, refugees, and/or undocumented students) students rather than or in addition to non-immigrant (international) students. Because we do not have access to the identity and immigration (I-94) status of the undergraduates referenced in the anecdotal reports, we cannot presently evaluate this alternative explanation. A third possible explanation is that continuing, rather than new, international undergraduates are the ones who struggle academically. To address this possibility, the present study will follow these three NFRS and TRAN cohorts’ academic performance in their continuing years at the west coast public university.
What variables account for the academic struggles of the small percentages of international undergraduates described in the present report? To evaluate the possibility that English language weaknesses (especially in writing) account for these students’ struggles, we statistically analyzed three cohorts’ required participation in community college English classes (English Composition; ESL) and their scores on standardized English proficiency tests. The percentage of F1 NFRS who were required to attend the community college English classes increased between the three cohorts, reaching almost two thirds of the FA11 cohort. Consistent with anecdotal reports, the percentage who struggled in these community college classes (i.e., earned course grades of D or F) increased between the cohorts, reaching 42% of the FA11 cohort (Table 2). Although these international undergraduates struggled with English writing as evidenced by their participation and course grades in the community college English classes, their mean GPA in university classes during their first (FA) quarter was between B- and B, and less than one tenth of their mean GPAs was lower than 2.0.

How could these international undergraduates have English weaknesses (as evidenced by their performance in the community college classes) while simultaneously succeeding academically in their university classes (as evidenced by their GPAs)? One possible explanation is that the community college classes (English Composition; ESL) are sensitive to English weaknesses while the university classes (e.g., Computer Science; Economics; Engineering; Mathematics) are not. Another is that the community college instructors grade these students more strictly on English (grammar, spelling, etc.) while university instructors grade less strictly on English (instead focusing on whether the students show evidence of mastering class concepts). An additional possibility is that these students invest more time and energy on their university classes than on the community college classes. Further research will be needed to evaluate these possible explanations.

If almost two thirds of the west coast public university’s international undergraduates do have English weaknesses, how could they qualify for admission to that university? International applicants are required to submit TOEFL and SAT scores; applicants who take either of these exams multiple times are considered on the basis of their highest total TOEFL and highest combined SAT scores. One possibility is that international applicants attend courses in their home countries that teach to these tests without improving the applicants’ English proficiency. Another is that applicants who take these tests multiple times show a practice effect. A third possibility is that at least some applicants cheat on TOEFL and/or SAT. Additional research is needed to evaluate these three possibilities. Regardless, the present study’s non-significant correlation coefficients between TOEFL or SAT reading and writing scores and quarterly GPAs suggest that while these standardized tests might be useful for admissions purposes, they are not strong predictors of international undergraduates’ academic struggling in their first year of university classes.

The present study’s finding that TOEFL scores were not correlated with quarterly GPAs is inconsistent with a previous study’s (Stoynoff, 1997) finding that TOEFL scores were significantly positively correlated with GPA. One possible explanation for the difference between these two studies’ findings is that the 1990s’ TOEFL differed from the modern TOEFL in at least two potentially important and related dimensions—range of the scoring scale, and mode of administration (paper-based vs. online; Educational Testing Service, 2005). Another possibility relates to a difference in statistical methodology—Stoynoff (1997) used a statistical correction to account for the narrow range of international applicants’ TOEFL (and, by extension, SAT) scores due to universities’ minimum requirements, we did not. In either case, Stoynoff (1997) described the correlation between TOEFL scores and international undergraduates’ GPA as “modest” and thus, combined with our finding, it suggests that TOEFL’s utility in predicting international undergraduates’ GPAs at American universities is limited.

The present study is the first, to our knowledge, using HLM to investigate what variables affect international undergraduates’ academic achievement while attending American universities (cf.
Li, Chen & Duanmu, 2010). Our HLM analyses included additional variables—applicant type, class level, country of citizenship, gender, immigration (I-94) status, and major department—and some of them were shown to be significant predictors for all three cohorts’ GPAs. However, these significant predictors accounted for a low percentage of the total variability; they would be considered “small” effect sizes (Cohen, 1988). Consequently, our findings might not be sufficiently compelling for use in decision making about implementing or changing policies and programs for addressing international undergraduates’ academic struggles. We instead recommend the development and implementation of a diagnostic instrument that correlates highly with quarterly mean GPAs for use in preemptively identifying which international undergraduates to target for additional support.

In conclusion, the present results taken together suggest that policies and programs intended to support newly admitted international undergraduates with weak English skills would be most cost effective if they were implemented for such students with demonstrable evidence of academic struggles and/or English weaknesses rather than for all incoming international undergraduates.

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A Comparison of Pedagogical Practices and Beliefs in International and Domestic Mathematics Teaching Assistants

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Abstract

International and domestic mathematics teaching assistants (MTAs) are a critical part of mathematics education because they teach a substantial portion of low-level mathematics courses at research institutions. Even if there are several factors to build on MTAs’ pedagogical practices, MTAs’ beliefs significantly influence the MTAs’ practices. The purpose of this study is to explore different beliefs and pedagogical practices between international and domestic MTAs. The findings reveal that there is consistency between the MTAs’ beliefs and their pedagogical practices. In addition, the two groups adopt significantly different approaches of how to teach new concepts, definitions, and problem solving for students’ conceptual understanding and how to interact with their students. These results contribute to the body of knowledge of MTAs and the adaptation of professional development programs of MTAs. In addition, faculty in mathematics has an opportunity to understand the differences in beliefs and pedagogical practices between IMTAs and DMTAs.

Keywords: Domestic mathematics teaching assistants (DMTAs), international mathematics teaching assistants (IMTAs), beliefs, and pedagogical practices

Since the late 1800s, mathematics teaching assistants (MTAs) have significantly influenced undergraduate education because of a wide variety of their roles in universities and their potential effect on education (McGivney-Burelle, DeFranco, Vinsonhaler, & Santucci, 2001; Speer, Gutmann, & Murphy, 2005). Because of spending a number of times interacting with students through grading students’ assignments and exams, providing tutoring services and office hours, and teaching classes (Hendrix, 1995; Speer, Gutmann & Murphy, 2005), MTAs’ pedagogical practices directly influence their students’ perspective on mathematics and achievement in mathematics education (Commander, Hart, & Singer, 2000; Speer, Gutmann, & Murphy, 2005). In the last two decades, the number of international mathematics teaching assistants (IMTAs) has been increased in mathematics departments in the U.S. because of the globalization of research institutions. Through the increased number of IMTAs, students in research universities have more opportunities to be taught by IMTAs than to be taught by domestic mathematics teaching assistants (DMTAs) (Twale, Shannon, & Moore, 1997). Because of MTAs’ vital roles in mathematics departments, mathematics departments have provided and developed training programs such as short- or long-term orientations in order to improve their pedagogical practices and knowledge. Despite of these supports, the majority of MTAs have taught classes based on their personal knowledge derived
from their mathematics learning experiences as students because of their first priority goal, studying their fields, and their resistance to new methods of teaching (Chae, Lim, & Fisher, 2009; Baiocco & De Waters, 1998; McGivney-Burelle, DeFranco, Vinsonhaler, & Santucci, 2001).

Even though researchers indicate that a wide range of factors influence teachers’ practices, in particular, Speer (2005) and Thompson (1992) assert that there are significant relationships between teachers’ beliefs and their teaching practices. In addition, educational experiences and philosophies influence the formation of MTAs’ beliefs and teaching practices (McGivney-Burelle, DeFranco, Vinsonhaler, & Santucci, 2001; Twale, Shannon, and Moore, 1997). Researchers have been interested in MTAs regarding MTAs’ knowledge and beliefs, difficulties, aspects of their experience, curriculum development for MTAs; however, a limited number of studies have conducted MTAs’ teaching practices. There is little literature that provides IMTAs’ pedagogical knowledge, different practices, and beliefs in detail. In addition, there are few studies about comparisons between IMTAs and DMTAs among pedagogical knowledge, practices, experiences, and challenges. From this case study as a qualitative research project, faculty in mathematics departments has opportunities to understand different IMTAs’ and DMTAs’ pedagogical practices regarding their beliefs. Mathematics departments and developer of training programs are able to have insight into the appropriate support for IMTAs and DMTAs. The purposes of this study are to explore different beliefs and pedagogical practices between international and domestic MTAs and sought to answer the following two research questions: “What are the differences in beliefs and pedagogical practices between international and domestic MTAs?” and “How are MTAs’ different teaching practices shaped by their beliefs?”

Literature Review

Definitions and Categorizations of Beliefs

Even if researchers have studied definitions of beliefs for several decades, the definitions have been vague. Several researchers have been interested in beliefs because factors of making teachers’ instructional decisions were not enough to explain the nature of teachers’ instruction without teachers’ beliefs. Because of raising concerns of beliefs, several researchers in mathematics education defined beliefs as personal philosophical conceptions, ideologies, worldviews and values that shape practice and orient knowledge (Aguirre & Speer, 1999; Ernest, 1989; Speer, 2005). Even though researchers have adequately defined beliefs, several researchers assert that there is not a certain definition of beliefs yet.

Researchers have suggested different categorizations of beliefs (Ernest, 1988, 1989; Kuhs & Ball, 1986; Lerman, 1990; Speer, 2005, 2008; Prawat, 1992). Each categorization has different characteristics of a variety of beliefs based on the content of beliefs. Currently, several researchers have proposed appropriated classifications of beliefs in mathematics education such as beliefs about teaching, learning, students learning, and mathematics (Cooney, 2003; Cooney et al., 1998; Cross, 2009; Ernest, 1989; Speer, 2005, 2008; Thompson, 1992). After researchers have suggested that beliefs significantly influence teachers’ practices, they have shifted their focus to the relation between teachers’ beliefs and their pedagogical practices. Speer (2005) and Thompson (1984) found that teachers’ beliefs were consistent with their practices in classroom. On the other hand, Cohen (1990) and Thompson (1984) also found inconsistencies between teachers’ beliefs and their practices. Even though there was a complex relationship between beliefs and practices, many researchers have suggested that studies of the relations between beliefs and practices are still valuable because there are no clear explanations for constructing and changing teachers’ practices (Speer, 2005, 2008; Thompson, 1992).
Relationships Between Beliefs and Practices

Researchers have been interested in the relationships between instructors’ beliefs and their pedagogical practices because beliefs are vital elements for shaping and changing pedagogical practices (Speer, 2005, 2008; Pajares, 1992). Researchers found that there are consistencies and inconsistencies between instructors’ beliefs and their pedagogical practices. Speer (2005) and Thompson (1985) found consistencies between instructors’ beliefs and their pedagogical practices in class. In contrast, Thompson (1984) and Cohen (1990) also found inconsistencies between beliefs and practices. Because of consistencies and inconsistencies between instructors’ beliefs and pedagogical practices, Thompson (1992) suggested complex relationships between them as “teachers’ conceptions of teaching and learning mathematics are not related in a simple cause-and-effect way to their instructional practices” (p. 137).

Even though instructors’ beliefs and pedagogical practices are often inconsistent, the studies of them are noteworthy because of other potential explanations for these findings and complex relationships between them (Speer, 2005, 2008; Thompson, 1992). In addition, without studying the relationships between instructors’ beliefs and their pedagogical practices, researchers have not had clear explanations for particular findings in shaping pedagogical practices. Thus, the future focus of the studies would be the relationships between instructors’ beliefs and pedagogical practices for professional development of instructors’ pedagogical practices because of the complex relationships (Speer, 2008).

Mathematics Teaching Assistants

There is limited literature of mathematics teaching assistants (MTAs) although research institutions have provided a number of mathematics graduate assistantships. In the past two decades, few researchers have done studies about the characteristics of mathematics teaching assistants (MTAs), MTAs’ practices, challenges, and needs compared to the studies about K-12 teachers whereas the number of teaching assistants has been increased (Speer, Gutmann, & Murphy, 2005). After researchers have increased their concerns for quality mathematics education in universities, many researchers have found that MTAs’ roles significantly influence the quality of mathematics education because of a high portion of MTAs’ teaching hours. For example, MTAs teach 21% of mathematics and 17% of statistics undergraduate students at doctoral degree institutions (Lutzer, Rodi, Kirkman, & Maxwell, 2005). Commander, Hart, & Singer (2000) suggested that MTAs and undergraduate students show a cause and effect relation in regards to their education.

Despite of universities and mathematics departments offering several training programs to support MTAs to teach class, MTAs believed that the training programs were inadequate to prepare them to teach class (Moore, 1996). In addition, the first priority of MTAs is to earn their degrees and find jobs based on their excellent research. Because of these circumstances of MTAs, they often have less motivation to improve their pedagogical practices for mathematics education. Even if MTAs complete a training program for their teaching, MTAs often uses teaching practices based on their mathematics learning experience as students because of institutional constraints and each MTA’s resistance to new methods of teaching (Chae, Lim, & Fisher, 2009).

Along with the globalization of universities in U.S., the number of IMTAs has been increasing in mathematics and science departments (Twale, Shannon, & Moore, 1997). Because of a high ratio of MTAs’ population, undergraduate students at research institutions have more opportunities to be taught by IMTAs than be taught by domestic MTAs. IMTAs have had a variety of teaching challenges because of cultural differences, lack of understanding and knowledge of American college contexts, and poor English proficiency (Chae, Lim, & Fisher, 2009; Luo, Grady, & Bellows,
2000; Tang & Sandell, 2000). For example, IMTAs realize that their initial expectations for students are significantly higher compared to the actual level of students’ mathematical competency at the beginning of teaching (Chae, Lim, & Fisher, 2009). After the initial teaching experience, IMTAs have adapted their teaching practices for the students’ level of mathematical competency. Despite IMTAs’ efforts for teaching, the instructional changes were based on their prior pedagogical knowledge and learning experiences as students (Chae, Lim, & Fisher, 2009). For supporting IMTAs’ teaching, universities and departments have developed training programs. Several studies reported that general training programs for IMTAs have not significantly changed IMTAs’ teaching (Etkina, 2000; McGivney-Burelle, DeFranco, Vinsonhaler, & Santucci, 2001). Recent researchers have suggested that a number of training programs for IMTAs’ pedagogical practices involve not only acquisition of information about American educational contexts but also the communication issues such as fluency in spoken English for non-native speakers (Tang & Sandell, 2000).

### Theoretical Framework

Employing a post-positivism perspective, this study verified regular patterns of differences in beliefs and practices between IMTAs and DMTAs because of different cultures and experiences (McGivney-Burelle, DeFranco, Vinsonhaler, & Santucci, 2001; Twale, Shannon, and Moore, 1997). Even though certain different patterns between IMTAs and DMTAs would be discovered, the findings do not consistently not true because there is no accurate equipment for measuring MTAs’ beliefs and there is inconsistency between MTAs’ beliefs and their pedagogical practices (Cohen, 1990; Thompson, 1984). However, from a post-positivist perspective, the findings of this study are valuable because those contribute to the body of knowledge of MTAs and professional development programs. In addition, the results help readers to understand differences in beliefs and pedagogical practices between IMTAs and DMTAs.

### Method

This study is a case study as a qualitative research project. It compared six international and six domestic MTAs regarding their beliefs and pedagogical practices at a coeducational public research university with about 30,000 students. After receiving IRB Approval, the participants were selected by four criteria: MTAs were all Ph.D. students in the department, MTAs were classified by domestic versus non-domestic MTAs, MTAs taught their own classes, and MTAs’ classes were low-level courses in the department according to criterion sampling (Creswell, 2007). The five IMTAs taught precalculus classes and one IMTA taught a business calculus. On the other hand, the four DMTAs taught four precalculus and two taught business calculus classes. Through triangulation, I employed three different data sources: an observation for one class period, a questionnaire, and a semi-structured interview with 12 MTAs. After one class period observation, I collected data from the questionnaires and then interviews with a digital voice recorder for later transcripts following a semi-structured interview protocol based on MTAs’ beliefs and pedagogical practices. The total time of questionnaire and interview was approximately one hour. Twenty eight closed-ended questions on the questionnaire consisted of the MTAs’ background information, pedagogical practices, and beliefs. The interview was semi-structured with 12 open-ended questions consisting of six questions about the MTAs’ pedagogical practices and six questions about their beliefs. To improve the validity for this study, the MTAs checked their transcriptions and findings from the data. After removing the participants’ identifiable information, several researchers in educational research repeatedly reviewed the data, which consisted of the expanded field notes, transcripts of interviews, critical themes, categories, and code books.

This study was conducted to find patterns and finally identify salient themes by inductive analysis. First of all, the data were analyzed based on four classifications of beliefs: beliefs about...
teaching, student learning, students, and calculus. In addition, there were seven categories of pedagogical practices: teaching organization, explanations of concepts and definitions, question forms, responses to students’ answers, methods to encourage students to participate in class, methods of summary, and teaching materials. I read and analyzed multiple data in order to find tentative codes through combining and reducing codes about each group’s patterns regarding beliefs and pedagogical practices based on the strategy of Miles & Huberman (1994). Using the derived codes, I constructed initial categories with the labels or codes. Through combining and refining the categories, I finally found critical themes, which aided in noting significant differences in beliefs and pedagogical practices between two groups.

Results

From the inductive analysis, one of the results was that the twelve MTAs were consistent in their beliefs and pedagogical practices. The other results revealed three patterns of beliefs and two patterns of pedagogical practices among the IMTAs and DMTAs. The three different beliefs were beliefs about teachings, beliefs about student learning and about students, and beliefs about calculus. In addition, the three beliefs were arranged in hierarchical organizations. From the expanded field notes and questionnaires, there were two different overarching patterns of pedagogical practices: (1) New concepts, definitions, and problem solving and (2) interactions with students.

Beliefs About Teaching

This section describes three middle-level topics: important aspects of teaching mathematics, efficient pedagogical practices, and instructional goals and roles under beliefs about teaching.

Important Aspects of Teaching Mathematics. Even if all mathematics teaching assistants considered motivation as a critical factor in teaching mathematics, they had several different views about teaching mathematics. The international MTAs believed that instructors’ knowledge of mathematics and pedagogy and preparation were important factors for teaching mathematics. In addition, the IMTAs emphasized recognition of students’ mathematics abilities because they had experienced the gap between their initially high expectations for students and their students’ mathematical competency. The domestic MTAs, on the other hand, considered instructors’ strategies such as problem solving by repetition and visual explanations as important factors for teaching mathematics.

There were significantly different views about how to improve students’ motivation. The IMTAs believed that they could develop motivation for students through asking questions and challenging problems, while the DMTAs thought clear explanations regarding why mathematics ideas were valuable would help students improve their motivation. Here are two interview quotations illustrating the IMTAs’ and DMTAs’ views about improving students’ motivation:

Paul (an IMTA): For pre-calculus, you need to motivate students to understand subjects and should help them. And many of them you should give them challenging questions.

David (A DMTA): I think the most important is trying to explain…um…why these processes are important. And exactly how they evolved more because I can teach the processes and I can actually teach you how to just use technology to figure it out. But if you don’t know why it’s important, then you uh…you probably won’t remember it.
The interview with Paul revealed that he believed challenging questions encouraged students to be interested in the lessons. On the other hand, David believed that explanations of the reasons why students learn mathematics were significant for motivation.

**Efficient Pedagogical Practices.** The IMTAs believed that the most efficient practice is clear explanations of concepts by their own methods because students can solve problems if the students understand concepts. Here are two IMTAs’ interview responses about explanations of concepts and definitions:

Daniel: I believe that if they really understand concepts, they can do any kind of problems. I also give them … using a calculator all day. I spend a lot of time making sure they understand what is happening.

Jason: My idea is that I do not just solve problems but also give some definitions and something which is in my own ways.

Daniel and Jason believed that explanations of concepts and definitions are more important than problem solving.

By contrast, the DMTAs stressed doing problems by repetition for students to learn the procedures. In addition, many homework assignments and quizzes were provided for students in order to develop their pattern recognition. One of the DMTAs described her view about efficient pedagogical practices:

Kelly: It’s mostly repetition. You just got to keep practicing, keep doing examples, keep doing homework problems. And…hopefully by then, they’ll…and there’s a lot to memorize, of course. And the only way you’re going to remember it all is if you just keep using it and doing it and using it and doing it.

Kelly believed that her students can understand lessons through rote problem solving. Thus, the IMTAs emphasized instructors’ clear explanations more than the DMTAs did. By contrast, the DMTAs believed that providing many problems is more critical for efficient pedagogical practices than the IMTAs believed.

**Instructional Goals and Roles.** Even though the international and domestic MTAs had similar top instructional goals--teaching students and students doing well on exams--their next prior goals were different. The IMTAs’ next instructional goal was motivating their students as helpers and not as instructors. To help their students, the IMTAs believed that instructors need to make materials easier, share knowledge, and prepare students for exams. An IMTA in this study explained his role:

Paul: I think that my role is to present the material as best I can and help them as much as they want. I don’t think I can… I mean I try to motivate them. So I want to help them achieve whatever they want to achieve.

Paul emphasized his instructional role is a guide or helper.

By contrast, the DMTAs thought that their roles are teaching lessons, interacting with students, and grading exams as primary instructors in order to provide best opportunities to learn materials and prepare their students for next level classes. Here is an interview quotation about DMTAs’ views about their roles:

Alley: I view myself just like a teacher. Do answer questions, I feel like I understand and I feel well enough, they answer any questions they have. That is what a teacher is.

Alley believed that her roles are the same as other professors or instructors.
Table 1

MTAs’ Beliefs About Teaching

<table>
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<th>Beliefs About Teaching</th>
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<th>DMTAs</th>
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<td>Important Aspects of Teaching Mathematics</td>
<td>Instructors’ knowledge of mathematics and pedagogy and preparation</td>
<td>Instructors’ pedagogical practices such as problem solving by repetition and visual explanations</td>
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<td>Recognition of students’ mathematics abilities</td>
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<tr>
<td>Efficient Teaching Practices</td>
<td>Clear explanation of concepts by their own methods</td>
<td>Providing time to work problems on students’ own</td>
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<td></td>
<td>Doing problems by repetition</td>
<td></td>
</tr>
<tr>
<td>Instructional Goal &amp; Roles</td>
<td>As helpers, motivating their students to get involved in mathematics</td>
<td>As primary instructors, providing best opportunities for their students to learn materials and to prepare their students for next level classes</td>
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Beliefs About Student Learning and About Students

This study revealed several common beliefs about student learning and about students between the IMTAs and DMTAs. The majority of both groups believed that all students cannot learn mathematics the same way because of the students’ negative attitudes, which resulted in students missing classes with a variety of excuses and students’ minimal efforts. In addition, the important abilities students need to have to learn mathematics are curiosity, logical thinking, patience, diligence, dedication, and paying attention in class. However, the DMTAs were more considerate towards pattern recognition as an important ability than the IMTAs were. Two DMTAs’ interviews revealed they believed some students cannot solve similar problems because of a lack of pattern recognition.

Jane: A lot of times students see a problem they should know how to do, but there is something slightly different about it. They’ll think that they don’t know how to do it when really they do, but they just get stuck on this one little part that’s different. What I think that is really important is learning to look fast at that and view what the question actually is and recognizing that they really do know how to do it.

David: I give it to them…the exact same problem with a little bit different numbers and maybe a little bit different words. Like, instead of using...like, if we’re doing...talking with probability...and they know how to do it...with, like, cards...blind cards, and if I switch it to...like, sandwiches or something like Fritos…and they, uh…they just...are stumped. And they don’t...they don’t see the connection between these problems. Even though they are just different words…and they’re different numbers.

Jane and David believed that the pattern recognition is a vital ability to learn mathematics. If students recognize the pattern, they can solve similar problems even if words or numbers are changed.

The DMTAs wanted their students to realize mathematics is practical and to have the same respect for the DMTAs as other professors. According to the questionnaire, 80% of the DMTAs
responded that they often used real world problems. Two DMTAs’ interviews explained that students need to realize that mathematics is useful and valuable:

Jane: I want them to see that it is valuable whether they are interested in it or not. And even if they are going into writing, recognizing that even though math is not going to be foundational to what they do, it’s foundational to the way that most the world work. I don’t like the attitude of math is pointless. Math is useless. And that’s what I don’t want them to have. They don’t have to love it but I want them to see that it is useful.

Brian: I want them to…um…realize and be able to acknowledge…um…that…all this stuff that they were doing is for a purpose. And I want them to realize that…it’s something that they can…and will probably have to use it some point if they end up going into…um…whether it is business or accounting or…or anything in general.

Since Jane and Brian have practical views for mathematics, they want their students to have the same views for mathematics.

On the issue of respect, the DMTAs had a desire for their students to respect them like any other professors or instructors.

Brian: I, for the most part, view myself as the…or maybe conduct myself as the…the primary instructor. Like, not as a T.A. You know, I teach every day.

Even though DMTAs are mathematics teaching assistants, they want their students to treat them with respect because the MTAs are the primary instructors.

On the other hand, the IMTAs considered the students’ respect less than the DMTAs because they accepted the students’ attitudes as a cultural difference. Daniel explained his view of students’ respect for him:

Daniel: Sometimes I feel they don’t really respect their teachers. It is cultural differences compared to India or Korea. American students are not really careful about teachers. It does not motivate you to be like a real teacher. You would not care that sometimes the students are not respective.

Table 2

Beliefs About Student Learning and About Students

<table>
<thead>
<tr>
<th>Different Beliefs About Student Learning and About Students Between the IMTAs and DMTAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>The DMTAs emphasized students’ pattern recognition as an important ability for learning mathematics more than the IMTAs did.</td>
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<tr>
<td>The DMTAs emphasized that students realize the value of mathematics.</td>
</tr>
<tr>
<td>The DMTAs considered students’ respect for MTAs more than the IMTAs did.</td>
</tr>
</tbody>
</table>

Beliefs About Calculus. Both groups believed that calculus was a foundation for mathematics; however, they had different perspectives about who needs to learn calculus. The IMTAs believed that calculus is for all undergraduate students because it is a foundation for students’ learning and understanding in other fields. The following is the interview responses from the two IMTAs regarding their views of calculus:

Paul: Calculus is one of the most basic math courses. Basic knowledge of calculus is required for all kinds of students because you should see students in different departments trying to take calculus courses in math department.

Daniel: I think calculus is a very important subject, very foundational subject. We all should at least learn to be calculus II level. I think it is very important.

The IMTAs believed that all undergraduate students need to learn calculus because calculus is the foundation for all majors.
By contrast, the DMTAs believed that calculus is a tool for students majoring in science and not every student. The two DMTAs described their views of calculus:

Jane: I think that it is very essential especially for any students going into any kind of engineering or physics or any kind of applied science at all. So I think it’s very useful, necessary, and fundamental.

Alley: I think it’s essential for mathematician [laughs] but not necessarily to everybody in the university.

Jane and Alley thought that only some students need to learn calculus. Thus, the DMTAs believed that calculus is a tool for only science majors; however, the IMTAs’ view of calculus is it is a tool for all majors.

Table 3

**MTAs’ Beliefs About Calculus**

<table>
<thead>
<tr>
<th>Beliefs About</th>
<th>IMTAs</th>
<th>DMTAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculus</td>
<td>Foundation for all majors</td>
<td>Foundation for only science majors</td>
</tr>
<tr>
<td></td>
<td>Calculus is for all undergraduate students</td>
<td>Calculus is a tool for students majoring in science, not every student</td>
</tr>
</tbody>
</table>

**Pedagogical Practices Influenced by Beliefs**

As the literature states, there are consistencies and inconsistencies between beliefs and pedagogical practices of instructors, and in this study the MTAs’ beliefs significantly influenced their pedagogical practices. Because of different patterns of beliefs between the two groups, the results revealed two classifications of each groups’ pedagogical practices: (1) New concepts, definitions, and problem solving and (2) interaction with students.

**New concepts, Definitions and Problem Solving.** From the expanded field notes and interviews, the IMTAs spent more time preparing for their class than the DMTAs because of the IMTAs’ beliefs about teaching. One of the IMTAs in this study described how he prepared his class.

Sam: My idea is that I do not just solve problems but I also give some definitions and something which is my own ways of solving problems. This is not designed for this course. For this reason, basically what I do is that I open the book and I look over the booklet to see what it mentions there. And sometimes I look up topics and definitions on Google because some definitions are easier than what is in the book. And once I am done with sorting things and definitions I will then look at problems and try to find the easiest way to solve these problems. Not the way I used to but I try to find the easiest way. As you know, mathematics problems can be solved in many ways. So I prepare for every lesson. When I have already completed the problems then, I will do other things.

The IMTAs kept developing their materials and pedagogical practices since they believed that instructors’ preparation is an important element for effective pedagogy.

The IMTAs provided more explanations based on their own experiences with the concepts and definitions, in order to assist students. According to the IMTAs’ questionnaires and beliefs about
teaching, the IMTAs spent over 60% of their class time explaining the concepts and definitions. According to another IMTA’s expanded field notes, even though the topic of a lesson was trigonometric equations, he reviewed characteristics and graphs of sine and cosine functions to help his students understand the concepts and solve the trigonometric equations.

Tom: Before solving problems of trigonometric equations, he asked simple questions to remind his students about definitions and properties about the sine and cosine functions while he drew the graphs of the functions. After he plotted a point $\frac{\pi}{6}$ on the x-axis of the sine function, he asked the y-coordinate of $\frac{\pi}{6}$ and then he plotted the ordered pair on the graph. He did the same for points $\frac{\pi}{4}$ and $\frac{\pi}{3}$. In addition, he showed the relationships to the trigonometric functions of angles using the unit circle and the sine and cosine functions.

In class, the IMTAs focused on detailed explanations of concepts, definitions, and rules instead of problem solving.

The IMTAs used easier problems as a complement to their explanations to help students’ understanding more so than the DMTAs because of the IMTAs’ beliefs about teaching. Through asking questions in the middle of solving the simple problems, the IMTAs encouraged their students to interact in the lessons and apply the concepts and definitions because of the IMTAs’ roles and goals. From the expanded field notes, the two IMTAs used simple problems as a complement to improve their students’ engagements even though the problems were not in their textbook.

Tom: After his explanations about the relationships to the trigonometric functions of angles using the unit circle and the sine and cosine functions, he asked the students to “find the solutions of $\cos \theta = \frac{1}{2}$.” Several students tried to answer the question. Using the graphs of sine and cosine functions and the graph of unit circle, he added explanations to the students’ answers in order to teach “how to find all solutions of the equation.”

Sam: He asked what quadratic functions were in order to explain the standard form of quadratic functions and to graph quadratic functions using the standard form. He wrote several examples on the board, and then he asked which one was a quadratic function. After several students answered his question, he explained the definition of a quadratic function and the standard form of quadratic functions. He wrote two equations “$f(x) = 2(x - 3)^2 + 5$ and $f(x) = -2(x - 3)^2 + 5$.” He asked, “What is the vertex of each standard form?” Several students answered the question. He asked, “Which parabola opens upward?”

Tom and Sam used their own problems in order to help their students confirm their understanding for the concepts and definitions.

In contrast, because of their beliefs about teaching, when the DMTAs taught new concepts and definitions, they focused on explaining the critical reasons why these concepts and definitions are important and valuable for problem solving and real-life problems in order to motivate their students to learn the lessons. After briefly introducing the law of sine, for example, Kelly solved real-life problems of the law of sine to encourage her students to realize how the law of sine was applied and why it was useful in the real world. According to the questionnaires, 80% of the DMTAs often used real-life problems in class, while 30% of the IMTAs used real-life problems.

Instead of spending time explaining new concepts and definitions, the DMTAs attached more weight to problem solving in class to facilitate understanding of concepts and definitions than the IMTAs did because of the DMTAs’ beliefs about teaching and their beliefs about students’ learning and students. From the questionnaires, the DMTAs spent 70% of their class time solving and providing as many problems as they could for repetition. In addition, the DMTAs’ instructional
strategy, solving many mathematical problems, was also influenced by their instructional goals and roles. For example, one of the DMTA taught strategies to solve problems before and after answering the problems in her expanded field notes.

Kelly: After solving a Law of sine problem, she introduced the strategy how to solve words problems of Law of sine.
Kelly: After introducing definition and concept of Law of cosines (about three minutes), she explained what kinds of Law of cosines problems were and what the best way was to solve the problems respectively. She began to solve the number three.
Kelly: She explained how the number three and four problems were different. In addition, she explained the strategy of the number four problem and then wrote the strategy on the board.

Kelly’s students would prepare the exams and learn the lessons through explanations of strategies for solving problems by repetition.

According to the questionnaires, 80% of the DMTAs often provided the opportunities for their students to solve problems in class due to the DMTAs’ instructional goals and roles, while 20% of the IMTAs taught thinking strategies. In addition, the DMTAs gave homework assignments and supplied information as much as their students wanted because of their instructional goals.

**Interaction With Students.** Even though the majority of interactions with students for both groups occurred during problem solving and explanations of new concepts and definitions, there were differences in their question forms and responses to students’ answers. The IMTAs used many closed-ended questions, which were directly related to concepts, definitions, rules, and formulas because the IMTAs believed that many questions motivate students to learn lessons and confirm understanding. In addition, the IMTAs checked understanding using closed-ended questions during problem solving. For example, the IMTAs asked “what is the definition?”, “what are the rules?”, “do you understand that?”, “are you following me?”, and “do you have any questions?” Compared with the DMTAs’ waiting time for their students’ answers, the IMTAs often tended to provide the answers instead of waiting for their students’ responses because the questions directly asked the definitions, rules, and formulas. Thus, the IMTAs’ lectures would be teacher-centered pedagogy since they spent more time explaining concepts, definitions, and solving problems through less interaction with their students.

On the other hand, the DMTAs spent more time interacting with their students through problem solving, which was consistent with the DMTAs’ beliefs about teaching: emphasis on problem solving by repetition. The DMTAs often used open-ended and follow-up questions in order to improve the interaction with their students, whereas the IMTAs asked closed-ended questions. For example, the DMTAs asked “how would you apply this definition and formula?”, “what does the problem want?,” “how do you get it?,” or “how come?” after listening to their students’ answers. According to a DMTAs’ expanded field notes, she asked several open-ended and follow-up questions in class.

After she drew two graphs with brief summary of last class in order to explain “one-to-one functions and their inverses”, she asked “how are the graphs related?” and then she waited for a long time her students’ answers. A student answered that two lines were symmetric then she asked “two graphs are symmetric with respect to what?” again. She drew a line $y = x$ and then said “Two graphs are symmetric with respect to the line $y = x$.” She plotted a point (3,0) on a graph, she asked her students to find the symmetric point on the other graph.

Comparing the wait time of the IMTAs’ responses to their students’ answers, the DMTAs waited more time for students’ answers. If the DMTAs’ students could not answer the questions, the
students were prompted by other questions and hints because the DMTAs believed that thinking strategies were important for effective pedagogical practices. For example, Kelly’s expanded field notes described how she encouraged her students to answer her questions.

Kelly asked “which angle is first to find out?” The students did not answer then Kelly asked “which angle is short?” The students answered “A” and then Kelly explained why the angle A was first to find.

Kelly made her students keep thinking to find the answers through hints and questions.

Because the high rate of interaction with their students through Socratic questioning during problem solving, the DMTAs’ practices tended to be both instructor- and student- centered pedagogy instead of teacher-centered pedagogy.

In addition, the findings revealed that there were differences in methods of summary between the two groups because of the groups’ different beliefs about teaching and student learning. The IMTAs spent less time summarizing the lessons and providing strategies for problem solving compared to the DMTAs. If the IMTAs needed, they showed the brief definitions, theories, and rules on the board with simple examples, which were used to explain the definitions and concepts before.

By contrast, the DMTAs often summarized concepts and definitions, procedures of problems, and strategies how to solve problems through interaction with their students by asking questions in the middle of and after problem solving because of their beliefs about teaching: learning by repetition and pattern recognition. For example, Kelly explained how to summarize strategies for problem solving through interaction with her students by asking questions and repetition.

Kelly: She explained the strategies of the number four problem and then wrote the strategies on the board. While she solved the problem by the strategies, she interacted with the students by asking next step. After listening the students’ answers, she moved on the next step. When they solved the problem, Kelly summarized how to solve these problems and the strategies again. She asked “do you have any questions?” The students answered they did not have questions and then she moved to next problem and asked what the differences were between the number four and five.

The DMTAs’ methods of summary were connected with their beliefs about teaching, and this was represented in their questionnaire responses in which 80% of the DMTAs taught thinking strategies because many questions during summaries afforded their students the opportunity to think how to apply the definitions, rules, and strategies of problems.

Conclusion

Although there are consistencies or inconsistencies between beliefs and pedagogical practices in literature (Cohen, 1990; Speer, 2005; Thompson, 1984), the results of this study support that the MTAs’ beliefs and pedagogical practices were consistent (Speer, 2005; Thompson, 1985). From this study, cultural differences in class and different mathematics learning experiences as undergraduate students were critical in building the different beliefs between the IMTAs and DMTAs (Chae, Lim, & Fisher, 2009; McGivney-Burelle, DeFranco, Vinsonhaler, & Santucci, 2001; Twale, Shannon, & Moore 1997). In addition, the IMTAs’ and DMTAs’ different beliefs about teaching and students’ learning and students significantly affected their different pedagogical practices regarding how to approach new concepts and definitions for students’ conceptual understanding and how to interact with students in terms of the MTAs’ question forms, responses to students’ answers, and methods of summary.
The cultural gaps in mathematics learning and teaching encouraged both groups to construct different beliefs. Understanding concepts and definitions were fundamental to learning mathematics because of the IMTAs’ beliefs about teaching and students’ learning and students. The IMTAs believed that explicit explanations, which came from the instructors’ preparation, knowledge of mathematics, and pedagogy, were the main cause for effective teaching of Mathematics, whereas the DMTAs’ beliefs relied on problem solving by repetition. In class, the IMTAs spent more time explaining new concepts, theorems, and definitions than the DMTAs did because of the IMTAs’ beliefs about teaching: clear explanations helped students not only improve their problem solving abilities but also intrinsically motivated to study mathematics. Because of experiencing the gap between the IMTAs’ expectations for students and the actual level of students’ mathematical abilities (Chae, Lim, & Fisher, 2009), the IMTAs strongly believed that recognition of students’ mathematics abilities was an important aspect of teaching mathematics. Instead of using many intermediate or real-life problems in class, the IMTAs often used simple problems on their own as a complement in order to help their students understand concepts and definitions. Through the adjusted problems and lessons, the IMTAs encouraged their students to engage in the problem solving and the IMTAs’ lectures. Instead of solving a number of intermediate problems in class, the IMTAs provided the problems as homework assignments.

On the other hand, the DMTAs’ beliefs about teaching and students’ learning and students were that understanding concepts and definitions came from solving problems by repetition. Compared to the IMTAs’ pedagogical practices in class, majority of the DMTAs’ class time was spent problem solving. Even though the DMTAs did not spend much time explaining new concepts and definitions, they often provided intermediate and real-life problems to show their students realistic mathematical practices and several reasons why mathematical ideas were valuable and how these theorems were applied to real-world problems. In addition, they solved many problems by repetition in class in order to improve students’ pattern recognition because pattern recognition was a vital means for learning mathematics. The students could have opportunities to improve critical thinking because the DMTAs provided more time for their students to solve problems in class.

Even though there were three categories of beliefs from this study, the beliefs about teaching strongly influenced the IMTAs’ and DMTAs’ different practices regarding how to interact with their students. Since the IMTAs believed that clear explanations of concepts and definitions were more important aspects of teaching mathematics than problem solving, they did not pay much attention to interactions with their students nor did they summarize problem solving strategies in class. Even though the IMTAs asked many questions in order to motivate their students to learn lessons, the questions did not improve the IMTAs’ interactions with their students because of the IMTAs’ closed-ended question forms and few follow-up questions. Therefore, the IMTAs’ lectures tended to archetypal teacher-centered pedagogy.

In contrast, the DMTAs actively interacted with their students in class because of their beliefs about teaching, open-ended question forms, and plenty of follow-up questions. In addition, the DMTAs had more interaction with their students than the IMTAs did. For example, the DMTAs guided their students to find correct answers prompted by more questions and hints. Because the DMTAs believed that learning by repetition and learning to critically think were important to learn mathematics, the DMTAs spent time summarizing lessons and strategies how to solve problems more so than the IMTAs did. In addition, the DMTAs often encouraged their students to engage in the summaries of lessons by asking questions. Even though the DMTAs’ lectures were based on teacher-centered pedagogy, the DMTAs tried to approach student-centered pedagogy.
Limitations and Implications

Although these findings answered the research questions, there were some limitations regarding the number of participants and the MTAs’ lack of pedagogical knowledge during the interviews. Because of the limited number of IMTAs in the department, it was hard to find a sufficient number of IMTAs under the same nationality. During the interviewing, a few IMTAs were confused about the meanings of the interview questions. Because of a lack of pedagogical knowledge and practices, several MTAs spent more time answering the interview questions. Thus, future research is needed to examine the MTAs’ beliefs and practices with the appropriate number of IMTAs under the same nationality versus DMTAs.

Even if there were limitations, I believe that this study contributes to the understanding of the different practices and beliefs between IMTAs and DMTAs and critical resources for the body of knowledge about MTAs. In addition, mathematics departments have the opportunity to have insight into the proper support for MTAs and to design professional development programs for MTAs.

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Actual vs. Ideal Attraction: 
Trends in the Mobility of Korean International Students 

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Abstract 

In the Republic of Korea (Korea), pressures emerging from the domestic education system seem to drive growing numbers of tertiary students abroad. This trend creates an outward flow of resources and has a number of impacts on Korean society. This study examines trends in the movement of tertiary students out of Korea from 2001 to 2010 and compares destinations’ actual market share with the Korean public’s ideal attraction. The results provide insight into the push-pull factors influencing Korean students’ destination choice and the influence of higher education policy in the global market for international students. 

Keywords: higher education, student mobility, Korea, international students, policy 

Global higher education consists of “(1) global flows and networks of words and ideas, knowledge, finance, and inter-institutional dealings; with (2) national higher education systems shaped by history, law, policy, and funding; and (3) individual institutions operating at the same time locally, nationally, and globally” (Marginson, 2006, p. 1). In this multifaceted role, global higher education influences the patterns and strength of links in the emerging networks of globalization. Governments engage in the global higher education market because of the appeal of higher education institutions (HEIs) in the knowledge economy (Varghese, 2008). In this growing market, players increasingly attempt to influence the flow of knowledge, reshape tertiary education systems, and spur HEI innovation to ensure that they are receiving a net benefit. 

Cross-border students represent an important currency in the flows of global tertiary education. Past research on these students has focused on marketing strategies for making destinations more attractive (Forbes & Hamilton, 2004; Verbik & Lasanowski, 2007), the decision to study abroad (Park, 2009; Salisbury et al., 2009) and the qualities that make destinations attractive, such as cost, ideology, prestige, target language and culture, employment opportunities, relative income level, and visa programs (Bodycott, 2009; Bodycott, 2012; Varghese, 2008). Flows in the international student market can be understood through the framework of push-pull factors. Push factors influence students to look abroad for education and pull factors the decision in favor of a particular destination (Mazzarol & Soutar, 2002). 

The Republic of Korea (henceforth, Korea) has seen rapid social change since the end of the Korean War. After decades of economic growth, the social infrastructure, particularly education, has struggled to keep pace with the changing economic demands. In the knowledge economy,
human capital has become a primary source of economic growth (Varghese 2008). Thus, for Korea’s economic success to continue, the education system must foster specialized human resources needed in the private sector. Higher education has an important role to play in ensuring students acquire the skills necessary to become productive members of society. Yet in Korea, increasing numbers of tertiary students are turning to the global market for higher education. As the Korean government and HEIs attempt to retain more students, their foreign counterparts are attempting to attract more students abroad. In this situation, all parties will need a deeper understanding of pressures influencing the market for Korean tertiary students. Additionally, the Korean case may provide some insight into the future trends and preferences of outbound students from other countries in the region.

This study examines trends in the flow of tertiary students out of Korea between 2001 and 2010. In particular, this study analyzes the stakeholders in Korean higher education, the push factors contributing to outbound flows of domestic students, and the consequences of students going abroad. The study determines:

1. How does ideal interest in a destination compare with a destination’s actual market share?
2. What destination pull factors influence outbound students’ destination choice?
3. What does this reveal about higher education policy in Korea and popular international destinations for Korean tertiary students?

The Stakeholders

When household incomes rise and tertiary education enrollment rates grow, more students express their frustrations with domestic systems of higher education and decide to study abroad (Verbik & Lasanowski, 2007). As growing numbers of students internationally take part in cross-border higher education, the amount of resources at stake within the global higher education market grows, driving international competition among HEIs (Choudaha & Li, 2012). Market players increasingly attempt to influence the global higher education market to their benefit. In the case of Korea, the key stakeholders in this market include the Korean government, Korean HEIs, foreign governments, foreign HEIs, and Korean tertiary students.

For the Korean government, cross-border tertiary education presents both benefits and drawbacks. On one hand, outbound students may return with new knowledge and global professional networks. Korea also has the opportunity to attract foreign resources into its own economy by cultivating flows of cross-border students into the Korean higher education system. On the other hand, Korean students who do not return after studying abroad contribute to outward flows of domestic resources. Thus, the global higher education market offers both economic opportunities and risks for the government.

For Korean HEIs, more students going abroad represent a significant challenge to the sustainability of many institutions. Population decline and growing numbers of outbound cross-border students put pressure on Korean HEIs to attract students. With fewer domestic students, Korean HEIs are forced to recruit aggressively abroad to fill empty places (McNeill, 2009; McNeill, 2011). Some universities, such as Myungshin University and Sunghwa College, have already been forced to close as the government attempts to ensure quality in this time of intense competition (Yonhap News, 2011a). While this pressure on Korean HEIs may be beneficial to domestic tertiary education over time, it imposes an enormous amount of stress on the system in the short term as HEIs compete to attract the limited number of domestic students and meet rising government quality standards.
Meanwhile, for foreign governments and foreign HEIs, outbound Korean students represent an opportunity for gain. These students are a source of both financial and human resources (Ghazarian, 2011a) for a destination's economy. Typically, cross-border students must pay tuition fees and spend a considerable amount of money to maintain their lives in a foreign country. This financial influx benefits both foreign HEIs and their host communities. After students conclude their studies, they may take jobs and provide skilled labor, further contributing to the destination’s economy. In other words, these students are seen as a necessary source of foreign labor to replace aging domestic populations in many destinations (Verbik & Lasanowski, 2007).

For Korean tertiary students, cross-border tertiary education offers a valuable alternative to the domestic system. Higher education qualifications have become a ‘positional good’ (Hirsch, 1976) that can lead to a better social status and stronger lifetime professional opportunities (Hirsch, 1976; Marginson, 2006). On one hand, a foreign degree can provide graduates with an advantage in the job market (Varghese, 2008) by differentiating a student from his or her peers. Cross-border study also offers a chance to escape the frustrations of the domestic system into a foreign system that judges learners according to different criteria. On the other hand, going abroad to study in higher education also has costs to Korean tertiary students. Informal networks among alumni from a particular HEI can be extremely important for professional life in Korea (Lee & Brinton, 1996). These informal social networks forged in Korean HEIs are often a source of employment, business deals, and other opportunities for their members. Thus, study abroad not only incurs a heavy financial burden, but also means foregoing the opportunity to join such a social network in Korea.

**Push Factors for Korean Families & Students**

After China and India, Korea is the third largest source of outbound cross-border tertiary students (UNESCO, 2010). Compared to other major source countries, Korea has a very high number of outbound students relative to its population. This trend seems to stem from Korea’s economic development. Despite the country’s economic change, education remains a rigid, conservative system leftover from the period of industrialization. As other source countries develop, they too may see dramatic increases in the number of students who choose to pursue their higher education abroad. Thus, the case of Korea offers a window into one possible future and set of challenges for tertiary education policy in other source countries.

A number of push factors contribute to the large numbers of outbound tertiary Korean students. Previous research by Park (2009) and KEDI (2005) shows a strong correlation between dissatisfaction with domestic education in Korea and a positive attitude towards studying abroad. These two studies find that Korean students are attracted by the use of English at foreign HEIs and are disappointed with the quality, expensive private tutoring, excessive admissions competition, job prospects, atmosphere, and teaching methods of the domestic education system.

One cannot underestimate the influence of “education fever” in Korean society (Kim et al., 2005). As many families obsess over the educational performance of their children (Chang, 2008), education fever has fueled a culture of excessive competition (Lee, 2011). There are a number of detrimental social consequences. The high-stress educational culture is often associated with negative psychological repercussions for students (Hwang, 2003; Yang & Shin, 2008; Lee et al., 2010), and Korea has one of the highest suicide rates in the developed world (OECD, 2011) with youth suicide the largest cause of death among young people in Korea (Yonhap News, 2012). The system also has very real severe financial consequences for the Korean families, despite government policies to decrease these costs (Byun 2010; Lee et al., 2010). For example, areas with a reputation for high quality public and shadow education are much more expensive places to live (Woo, 2012). These housing costs only add to the financial burden of tuition fees for shadow
education, such as tutoring services and private institutions for study outside of public schools designed to give students a competitive advantage on their examinations.

In fact, educational competition has intensified to the point that the overall costs may now outweigh the benefits of education in Korea. Such a system hinders individuals, households, and the economy. While the status quo of the Korean education system is not universally negative, it still poses a significant policy challenge. In such a situation, the relative costs and benefits may push families to consider sending children to study overseas earlier. For instance, some high socioeconomic status (SES) families avoid the Korean secondary education system altogether and decide that a secondary and tertiary education abroad would be more beneficial for their children relative to the cost.

The university entrance system in Korea, hinged upon *suneung* examination scores, likely further contributes to the numbers of outgoing students. The high-stakes system was designed with meritocratic fairness in mind. Unfortunately, the growing importance of shadow education has perverted *suneung* preparation into an economic endeavor tied to the amount of resources available for shadow education tuition (Dawson, 2010) and shadow education market savvy in the family. In order to decrease the intensity of this competition, the government has tried to discourage the public belief in the necessity of higher education for success in the job market (Korea Herald, 2011) and to restrict the provision of shadow education. Despite their efforts, the rate of tertiary education attendance and shadow education participation remains high. Other countries with similar high-stakes university admissions systems, such as the People’s Republic of China, may also see the concern over shadow education and excessive competition worsen over time.

Furthermore, students in Korea’s highly status-conscious culture are reluctant to attend domestic universities that do not have strong reputations. As explained by Lee and Brinton (1996), “School background is a basis of informal social groupings that serve as an important source of social capital among South Koreans” (p. 182). In other words, lower tier institutions may not provide tertiary students with the personal and professional networks they would like to have later in their lives. The mass quantity of places available at domestic HEIs inherently decreases their perceived value (Marginson, 2006). Additionally, low prestige HEIs do not offer the same level of personal branding as a degree from a well-known university (Ghazarian, 2011b), branding that can provide a competitive edge in the job market that may justify the sacrifice of developing a social network at a domestic HEI.

The relative quality and cost of higher education institutions in Korea may also contribute to the number of students pursuing their tertiary education overseas. Although highly ranked Korean universities do hold the allure of domestic networking opportunities, the top fifty ranked global universities in any of the international ranking systems is dominated by universities in English-speaking countries (Ghazarian, 2011b). The waxing importance of English in the highly competitive job market (Park, 2010) only further contributes to the interest in international study. Consequently, students and families dissatisfied with the higher education entrance process or the quality of HEIs may look overseas for other opportunities.

**Repercussions for Korea**

Clearly, many push factors contribute to the decision to pursue a higher education outside of Korea. From education fever to the *suneung* examination system, many students feel dissatisfied or trapped. Compounding these negative feelings, students and their families may have concerns about the quality and cost of domestic HEIs and employment prospects after graduation. As these
pressures direct more attention overseas, Korea can expect a number of social consequences associated with rising numbers of outbound tertiary students. These consequences may include demographic challenges, economic impacts, widening class stratification, and the rise of education inflation in the job market.

To clarify, Korea faces an impending issue of population decline (Chin et al., 2012; Coleman & Rowthorn, 2011) and the paramount role of education in Korean society factors into the low birth rate. The high cost of education, driven by “education fever,” contributes to the decision to have fewer children in order to concentrate family resources (Lee, 2007). The declining number of children means that fewer domestic students will enroll at Korean HEIs each year. As a larger share of students looks overseas, Korea’s HEIs will continue to face a considerable amount of pressure.

Economically, outgoing international students create a bridgehead for outward flows of resources. Families must support cross-border students’ endeavors while overseas, sending significant sums abroad. This outward flow of financial resources represents a lost opportunity for Korean HEIs and their host communities (Ghazarian, 2011a). Additionally, outgoing Korean international students also contribute to the net loss of human resources and young people, often referred to as brain drain. As Espove et al. (2010) report, South Korea faces potential demographic pressure from emigration of the highly educated and young people. For example, the US Department of Energy’s Oak Ridge Institute for Education found that 42% of graduates from science and engineering doctoral degrees had not left the USA five years past graduation (Han, 2012). In spending time abroad, larger numbers of students become exposed to the possibility of emigration. These trends represent further demographic challenges for the economy.

Meanwhile, SES increasingly impacts educational attainment and success. In fact, recent educational trends contribute to the development of widening cross-generational class stratification. Those from higher SES backgrounds with more resources at their disposal often spend more on shadow education tuition, presumably giving their children an edge over their classmates (Dawson, 2010). Some families may effectively be priced out of equal educational opportunity (C. Lee, 2005). In order to ensure a privileged future for their children, many of those households rich enough to support their son or daughter to study abroad from a younger age are beginning to do so, even if that means dividing the family (J. Lee, 2011). Furthermore, higher SES families are also able to afford tuition at more prestigious destinations that distinguish their children from their peers.

If these trends persist across multiple generations, class stratification will continue to grow over time. One aspect of this class stratification includes growing cultural differences between social classes. As children (and oftentimes an accompanying parent) return to Korea from studying abroad, they bring back with them aspects of the host culture they experienced. For instance, Park and Abelmann (2004) describe how attitudes towards English language and education can be associated with a family’s SES. Affluent families become increasingly successful at using their resources to give their children an educational and cultural advantage. As a result, an individual’s educational success may be increasingly determined by his or her family’s SES.

The emergence of education inflation in the Korean job market represents another economic challenge for the education system’s status quo. Growing numbers of young Koreans spend more time in education and do not participate in the labor market. Meanwhile, as academic qualifications become increasingly common, they also lose their value (Marginson, 2006). Jobs require ever-higher qualifications, increasing the cost of education for students and removing human resources from the labor market for ever-longer periods of time. In order to stem the rise of academic inflation, the government has attempted to raise the profile of vocational schools (Yonhap News, 2011b), but such initiatives are unlikely to have much lasting effect. Meanwhile, as more students decide to study abroad, a foreign degree may lose its luster and also fall victim to education
inflation. A foreign degree could possibly come to be perceived as a requirement rather than a relative merit for particular jobs.

The Korean government and HEIs need to carefully examine trends related to the global higher education market in Korean society. Greater understanding of the phenomenon could help avert unnecessary economic costs, growing social problems, and future demographic challenges. Policy reform must focus on increasing the attractiveness of a Korean higher education for young Koreans, students from other countries, and the job market. Meanwhile, foreign governments and HEIs looking to attract Korean tertiary students would also benefit from better understanding patterns in the demand for international tertiary education. With good information, policy initiatives could better influence the flow of international students out of Korea.

Yet research on the outbound movement of students from Korea is surprisingly limited. Previous research by Park (2009) builds on the general model of Mazzarol and Soutar (2002) by focusing on the push-pull factors specific to Korean students. Via survey research, the study finds that dissatisfaction with domestic education serves as a strong push factor for Korean students. More specifically, the study examines how academic and environmental expectations factor into student destination choice among the US, China, UK, and Australia. While this study provides insight into Korean students’ views on the process of deciding to study abroad, it draws on a sample of students only from the capital and does not consider data collected from other important stakeholders in the decision-making process, such as parents. The present study seeks to complement this line of research by examining a nationally representative sample and by comparing how nationally stated ideal preferences compare with actual destination choice across the Korean population.

**Research Method**

This study addresses three questions about the flow of cross-border tertiary students out of Korea. The present study examines two samples. The first consists of a population sample of data on all outbound undergraduate, graduate, and language study tertiary students. This first sample is drawn from the Korean Ministry of Science, Technology, and Education (MEST) data on outgoing tertiary students (MEST, 2010). The second sample consists of a nationally representative sample for the population over 19 years of age in Korea (n=1029) drawn from the Chicago Council on Global Affairs’ (2008) “Soft Power in Asia” Multinational Survey. Data collection took place between January 22 and February 5, 2008 as face-to-face interviews in Korean. The sample is nationally representative for the population nineteen years of age or older from all administrative regions except for Jeju, which was excluded based on its remote location, high costs, and low percentage of the population (1.1%).

The study considers participants’ responses to the question: “If you were to send your children to receive their higher education in another country, which country would be your first choice? What about your second choice?” In these responses, the European Union (EU) is coded as a single destination, and thus EU members are treated as a single destination for this study.

The analysis of these data consists of three steps. First, the study takes a descriptive look at the total number of cross-border tertiary students out of Korea each year between 2001 and 2010. It primarily focuses on USA, China, Japan, and the EU’s market share of tertiary students by year. These destinations account for the vast majority of outbound tertiary students between 2001 and 2010. Together with Australia, Canada, and New Zealand, they account for at least 95% of all
students each year. The first step of the analysis establishes a baseline understanding of trends in the number of tertiary students out of Korea and their destinations for study.

The second step of the analysis examines the Korean public’s ideal first-choice and second-choice destinations. This step compiles a single indicator of ideal preference based on the total number of responses for each destination. The indicator consists of the percentage of total first choice and second choice responses for a destination. This indicator allows for further investigation into the relationship of ideal preference with the actual proportion of students going to each destination. It provides a standard against which to compare a destination’s actual market share with ideally stated interest.

The third step of the analysis examines the results of the previous steps for patterns in the actual and ideal destinations of outbound Korean tertiary. These trends are further analyzed through Cubillo, Sánchez, and Cerviño’s (2006) framework for destinations’ pull factors: personal reasons (i.e. personal improvement, advice), country image (i.e. cultural distance, city image, cost of living, immigration), program evaluation (i.e. international recognition, specialization), and institutional image (i.e. corporate image, faculty quality, facilities). Additional secondary research on these factors is used to provide a context for the results relative to the special qualities of each destination in the global higher education market.

Some limitations emerge as a result of the combination of two data sets. For instance, individual observations from one set do not directly coincide with individual observations from the other. As a result, the present study does not provide information about individual decisions to study abroad or how single destination choices relate to individually expressed ideal first and second choice destinations. In spite of this limitation, these data do provide important insight at the country-level of analysis into Korean national trends regarding the actual and ideal attraction to particular destinations. Additionally, no MEST (2010) data were collected in 2002. As a result, that year has been omitted from the analysis.

Results

The results from the first step of the analysis reveal consistent growth in the numbers of outbound tertiary students from Korea. The approximately 150,000 outbound students in 2001 has increased nearly every year to a maximum of approximately 280,000 in 2009 and finally just over 250,000 in 2010. However, these increases are not divided evenly across all destinations. Figures 1 and 2 illustrate how these gains are reflected in student numbers and market share.

For the sake of clarity, Australia, Canada, and New Zealand are not included in Figures 1 and 2, but were included in the preliminary analysis. Australia’s market share remained static, receiving approximately 7% of students each year. Canada experienced a drop from 14.6% in 2001 to 5.6% in
2010. Meanwhile, New Zealand rose modestly from 1.81% to 4.34% over the same period. Due to the relatively small market share of Australia, Canada, and New Zealand, further analysis focuses exclusively on the USA, China, EU, and Japan. Although the USA made gains in the number of students it received each year, these gains did not keep pace with increases in the overall output of tertiary students from Korea. As a result, USA market share consistently declined from nearly 40% to 30%. China, on the other hand, has seen strong yearly growth in the number of students it receives each year since 2006, up to 26.52% market share at its highest point, very close to US market share at that time. The EU has fluctuated between 10% and 20% of market share, with a swift increase in the total number of students followed by a plateau that has failed to keep pace with overall output of Korean tertiary students. Japan’s figures are stagnant, although there is a sudden increase in the number of recipients in 2010. As a result, Japan has a slow, steady drop in market share until 2009, when it returns back up to roughly 10% in 2010.

The second step of the analysis provides a single indicator for each destination’s ideal attractiveness to the Korean public. The vast majority of interest lies in just four destinations.

Figure 3. Total Mentions as an Ideal Destination for Tertiary Education

While compiling a single variable for public interest in each destination, an interesting difference emerged in the way destinations were mentioned as a first or second choice destination. Both the EU and USA performed quite strongly as first and second choice destinations, with approximately 40% interest each as a first choice and 30% interest each as a second choice. This contrasts sharply with China and Japan, which both only attract approximately 5% interest as a first choice destination and 17.6% and 12.5%, respectively, as second choice destinations.

Figure 4 reports the results of step three, comparing each destination’s market share by year with the total interest in that destination. The results reveal very different situations for each of the destinations.

Figure 4. Actual Market Share vs. Ideal Interest by Destination

Although the USA began over-performing against ideal interest, by 2010 its actual market share was well below ideal interest. Yet the gap between ideal interest and actual market share in the USA
is dwarfed by the EU’s gap over the same period. The EU’s best performance for attracting tertiary students in any single year between 2001 and 2010 remains 16.31% below the Korean public’s stated interest in EU destinations.

Meanwhile, China begins the decade at just below ideal interest, and ends in 2010 well above ideal interest of 11.45%, with a staggering 25.5% of market share. Finally, Japan’s market share remains consistently around the ideal interest of 9%.

Discussion

The results of the analysis reveal a number of interesting trends in Korean outbound tertiary students. First of these trends is overall growth in the number of outbound students from Korea, suggesting that domestic push factors may be causing growing numbers of Korean students to look abroad. The findings also reveal that increasing numbers of cross-border students are not heading to their first-choice destination for higher education. As a result, China has benefited most from the increased outward flow of cross-border students from Korea. Meanwhile, the EU and USA are both under-performing relative to ideal demand, but for very different reasons. Lastly, Japan’s position as a destination for outbound Korean students has remained relatively stagnant, despite strong interest in Japan as a second choice destination.

Fluctuations in students’ movements show a growing number choosing to remain in the Asia Pacific region, with China becoming an important destination for Korean students. This result supports previous findings of greater interest in developing countries as destinations for tertiary education (UNESCO, 2009; Varghese, 2008). The Chinese government has promoted policies encouraging the internationalization of higher education as a means of promoting Chinese culture and perspective (Huang, 2003). This policy has met with success in attracting Korean students, who often view China as an important part of Korea’s economic future (Snyder, 2009) and thus an attractive destination for developing future job prospects, desirable language skills, and a useful international professional network. The Chinese government supports these growing ties with South Korea as a means of hedging against its relationship with North Korea (Shambaugh, 2003; Shambaugh, 2004), which may result in a sense of welcome for South Korean students in China.

Despite success in attracting increasingly more Korean students, China seems to be a destination of necessity rather than a destination of choice. The results suggest that students who are turned away or unable to afford from their first choice destination may ultimately pursue a tertiary education at some alternative destination. These students go on to pursue an international tertiary education, but perhaps choose a destination with relatively less competition or lower costs. This second-choice phenomenon seems to greatly benefit China, which has supplanted the more traditional second-choice destinations like Canada. In fact, as the number of outbound students has
increased, China’s market share has grown as US market share decreases. Thus, the results reveal that despite a much greater demand for US higher education, China has in recent years performed nearly on par with the US in terms of market share.

The results also tell of missed opportunities by other more desirable destinations, particularly EU member countries, to attract more students from Korea. The consistently low market share of the EU relative to ideal interest suggests the presence of some barriers for Korean tertiary students. These barriers are likely both cultural and financial. Ritzen and Marconi (2011) argue that for the EU to improve its standing as a viable destination for international students, it will need to broaden and deepen offerings of English language medium programs, expand support for international programs, consider higher living and travel costs for international students in the loan-grant systems, develop better visa regulations for highly skilled migrants, and further internationalize accreditation and quality control. As the EU works through these concerns, member countries may struggle to attract the total possible number of students from Korea. Additionally, the high exchange rate of the Euro relative to the Korean Won may also contribute to the low numbers of tertiary students heading to EU HEIs. Confronted with issues such as language concerns, travel costs, high cost of living, or expensive tuition fees, many potential students may opt to pursue a more affordable destination in the global higher education market.

Though the USA holds a large market share of outbound Korean students, the USA has significant room, relative to ideal demand, to grow as a destination. As the US enjoys strong popularity as a destination in the global higher education market, competition for seats allocated to international students intensifies, and as a result more students will fail to gain admission or will simply decide on another destination. While US HEIs face financial cuts at home, they may increasingly look abroad for international students as a source of needed finances and make room for more international students. Despite the potential benefits these students offer, a number of factors stand in the way of more Korean students entering into the US higher education system. Cost and competition are likely barriers for many students. Further contributing to these are a weakening country image and tightening visa policies (Warwick, 2005).

Despite the strong ideal demand for US higher education, the US image abroad suffers as a result of a number of factors. Firstly, many international students on US HEI campuses are not having positive experiences. Case studies find international students perceive discriminatory and unfair practices (Lee, 2010), and feel isolated by the passive cultural attitude towards international students in the US and prejudice they face from American peers (Charles-Toussaint & Crowson, 2010). A study by Gareis (2012) finds there are few close friendships between international and American students, meaning that neither international nor domestic students are benefiting from the opportunity for greater intercultural learning. International students with negative experiences may warn off other potential students from their home country and may not recommend their host HEIs or the US as a destination for study, serving as a barrier to growth in inbound student numbers. Secondly, as the US economy slowly recovers from financial problems and a high rate of unemployment, the attraction of the US as a potential destination for migration after study may have also suffered. As a result, fewer students may settle upon the US as their final choice for a destination.

In addition, the visa reform issues following the events of 9/11 also represent a large barrier to Korean students wanting to study in the US. The changes have increased the bureaucratic burden for Korean students, as well as for US HEIs who now must deal with more work in order to process fewer students. After 9/11, President Bush established the ‘Interagency Panel of Advanced Science and Security’ to supervise visa applications from international students to protect knowledge and
technology in sensitive areas on a case-by-case basis (Warwick, 2005). As a result of these added steps, processing times and other visa concerns may play a part in fewer Korean students heading to the US for study. Thus, cost, competition, visa restrictions, a weakening image, and problems with internationalizing campus life may be contributing to US underperformance.

The market share of Korean students heading to Japan has remained relatively stable, remaining within two degrees of ideal demand. Without much disparity between actual and ideal demand, Japan appears relatively unremarkable as a destination for Korean students. Yet the question remains as to why Japan has not benefited as a second-choice destination in the way that China has, given the high response rate of Japan as an ideal second choice. On one hand, Japanese HEIs have some of the strongest reputations in Asia. Cultural similarities between Korea and Japan cause relatively fewer problems with adjustment for Korean students (Tanaka et al., 2004), meaning that students may have a more enjoyable experience while there.

On the other hand, in the past Japanese HEIs have not had sufficient structures in place to recruit or provide information about their HEIs to potential Korean students (MEXT, 2008) and has struggled to build a strong intercultural understanding and internationally inclusive social practices on campus (Whitsed & Volet, 2011). As the best Asian students look to the EU or the USA (Ishikawa, 2009), Japan is pushing to develop English language medium courses. Even so, these efforts must overcome barriers such as overworked faculty, insufficient English language ability, and quality concerns over instruction in a foreign language (Tsuneyoshi, 2005). The improving quality at Chinese and Korean HEIs also means that Japanese HEIs are facing greater competition within the region (Yonezawa, 2007) and the high cost of living in Japan can create stress for Korean students (Murphey-Shigematsu, 2002). In addition to the relatively high cost of living, the grim economic situation in Japan may also contribute to interest in China over Japan. For Japanese HEIs, China’s windfall as a second choice destination for Korean students seems to be a missed opportunity.

**Conclusion**

The findings of this study reveal growth in outbound international tertiary students from Korea, the rising importance of second choice destinations for these students, and the increasing popularity of China as a destination for Korean tertiary students. The Korean government is responding to increasing numbers of outbound tertiary students with policies aimed at internationalizing domestic HEIs and establishing international alternatives to domestic HEIs within Korea (MEST, 2007). These policies cater to the increasing intraregional student mobility and may help stem the flow of Korean tertiary students overseas. Even so, the current policies need to be further developed and refined to maximize their benefits.

Internationalizing Korean HEIs could attract more foreign students into Korea’s tertiary education system, relieving the demographic pressures on domestic HEIs and potentially, with immigration reform, the Korean economy. Although internationalization efforts at domestic HEIs have been underway for some time, government policy has not always facilitated deep organizational change at these institutions. As Byun and Kim (2011) describe, the government’s heavy emphasis on the “economic rationale” for internationalization has fostered a policy based on quantitative requirements that overlook the quality of internationalization taking place. Quick implementation English-medium instruction and other internationalization reforms can also create conflict and have unintended consequences at HEIs (Byun et al., 2011; Cho & Palmer, 2012; Kim, 2005; Palmer and Cho, 2012). Such an approach may not take into account the penetrating organizational changes necessary for an HEI to effectively produce an environment conducive to international study.
In addition to internationalization efforts, other policy initiatives focus on bringing foreign HEIs into the Korean system (MEST, 2007). With the support of public organizations, foreign HEIs are increasing their presence in the domestic Korean market via branch campuses. These projects are restricted to Free Economic Zones (FEZ) and the first foreign HEI to open a campus in Korea was the Dutch Shipping and Transport College, in the Gwangyang Bay FEZ (MEST, 2008). More recently, Songdo Global University Campus has pursued bringing a number of foreign programs from HEIs such as SUNY Stony Brook, Ghent University, and George Mason University to Incheon FEZ. Despite some initial difficulties emerging from the financial crises in the USA and EU, the increased presence of foreign HEIs within the domestic tertiary education system seems certain.

While it is possible that internationalization of domestic HEIs and the introduction of foreign HEIs could curb growth in the number of outgoing tertiary students, both initiatives will take time to mature. For these policies to be successful, Korea will need to attract a constant and diverse stream of tertiary students from other countries. Without enough incoming foreign students, both Korean HEIs and branch campuses of foreign HEIs would fail to provide sufficient international exposure to their students. The Korean government needs to continue promoting Korea as a destination in the global market for higher education and improving national brand image.

Further research should examine the experiences and satisfaction of Korean students in the US, EU, China, and Japan. These studies could help determine differences in the types of students these destinations attract and the relative benefit of a higher education at each of these destinations for Korean students. Case studies documenting successful national and institutional approaches to internationalization and attracting students from abroad would help provide guidance towards meeting these goals.

References


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Of Languages and Epistemologies: Reflections of a Graduate International Student on the Road to Becoming a Researcher

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It is late at night, after working all day on my postdoctoral research I am trying to wind down while drawing and jotting down thoughts in my notebook. I am at the living room/office of my apartment in Buenos Aires, the city where I was born and left when I was 26 years old to pursue my graduate studies in the United States of America where for almost nine years I was an international graduate student. So here I am again back in my country, thinking about the intersections between epistemology and language that I have come across on this endless road to becoming a researcher and how I have dealt with these junctures.

I am from Argentina and Spanish is my first language. I am a certified elementary school teacher, who studied literature for 2 years, before receiving an undergraduate degree in Education. When I arrived in the U.S., my methodological background was tied to an academic and research environment that almost aggressively defended a qualitative stance towards research methods. As a university student in Argentina I was academically prepared as a qualitative researcher and practitioner.

I had written a thesis for my undergraduate degree, conducted interviews, and participated in a research project with several professors. When I arrived to the U.S. to pursue my Master’s Degree in Intercultural Communication and PhD in Language, Literacy, and Culture, my undergraduate background and research experience provided an excellent foundation for conducting research at the graduate level. Taking field notes in English for my first assignment in the U.S. was a huge challenge. I talked to my professor about how hard it was for me to achieve thick descriptions in English while conducting non-participant observation. At this point my academic written and spoken English had improved a lot, but when having to describe everyday life scenes I would come across numerous unknown words. I did my best adding drawings to my observation notes, but I was not satisfied with that. After showing my work and discussing these issues with my professor she was very supportive and suggested that I could use some Spanish in my raw notes and later work on my English during the write up of my observations. This made me feel more confident and I began to enjoy the observation assignments. The following semester the professor asked me if she could show my assignments to other students as example. I was quite surprised, because, though I felt I could do qualitative research work, I was uncertain about conducting qualitative research in a second language. How could I, a speaker of English as a second language, enact the language practices that qualitative research demanded? How could I construct science through a language that I felt was not mine? And even if I would have had the chance to write my dissertation in Spanish, How could I, a native speaker of Spanish, enact qualitative research if I had acquired all the theoretical knowledge in English? There I was, equally naked of tools in both languages. Enriched with different perspectives but always feeling as though I lacked something in each
language. In English, my writing missed the flow and lacked a sense of ownership to express not only research findings but also my personal reflections as a researcher. In Spanish, I lacked the theory, the terms and the disciplinary structure or absence of structure to make the text and the research flow, being able to question the structure in which I was immersed.

So there I was: limping between languages and epistemologies. Not one, not the other. My way of coping with this situation can be abstracted to what I have learned as the best life-lesson ever: do not exclude, combine. And there you have me combining desperately. I had to write my dissertation in English and since arriving in the U.S., this had been a daunting task and a big issue in my adaptation process as an international student. Combining my native and second language was a strategy that I used to improve my academic writing in English. I started asking for help from friends who spoke Spanish because I felt that they could aid my writing acting like language, cultural and disciplinary translators. An Argentine colleague, who was finishing the graduate program, translated disciplinary expectations pointing out differences between Argentine and American university papers. She also showed me her own papers so this gave me an idea of what professors were expecting from me as a writer. My Mexican friend knew nothing about my field of studies but he had been in the American school since he was ten years old. In addition, he willingly sat down and helped me improve my drafts. He would first read the text and then, in Spanish, we would discuss the ideas I was trying to convey. He would suggest some English words and phrases that would work better in an academic context and I would make the necessary changes. My American roommate would be my last-minute proof-reader. Part of her job as a librarian was to translate texts to Spanish (her second language) so I would proof read her work and she would do the same with mine. Combining English and Spanish while working on the drafts for my course papers was my way of hitting the road to research writing: By discussing my text in Spanish, I could express in my own language not only ideas for my papers but also doubts and frustrations related with my experience of writing in English.

My quantitative research skills were close to zero and this was clashing with my desire to become a serious researcher. I opted to select a graduate advisor who was the appointed expert for qualitative studies in my program who was also a native Spanish speaker. As you can see, I did all the combining I could and thus I ended up with a mixed methods research project. I shared a language with my advisor but her theoretical background was radically different from mine. After some negotiations in English and Spanish I had two theoretical frameworks for my dissertation; my advisor’s and mine. I did as much as I could and even pushed myself out of the limits not only to include her theoretical framework, but also to conduct first-rate quantitative and qualitative research. And I did it. And so did my advisor; she walked me through the dissertation process and also the tasks of merging languages, theories and methods next to me. I was speaking English and Spanish, talking the language of two theoretical frameworks and doing quantitative and qualitative research. And nowadays, when I look back at my dissertation process, I realize that I was not lacking by being between languages, theories and research approaches. Instead, I recognize myself to have been the wealthiest person, student, researcher, and academic writer. Because being with one foot on each side of those lines is what allowed me to learn and receive the best of both worlds by combining languages and epistemologies.

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Reading Between the Signs:  
Intercultural Communication for Sign Language Interpreters


Reviewed by Rolf Holtz, PhD, Troy University (USA)

This book presents the subtleties of a most remarkable human attribute: The ability to understand and communicate language. The focus of the book does examine the basic elements of interpreting and translating for the deaf. However, it takes the reader far beyond the linguistic challenges of American Sign Language (ASL) into the realm of interpreting for world cultures. The book presupposes a well-developed understanding of ASL and readers are expected to already be convinced that ASL is a real language. Deaf and hearing individuals will unquestionably profit from the analyses of culture that are always present in the medical, business, educational, and interpersonal situations in which deaf interpreters are active. Moreover, the book is intended to sensitize interpreters to their own biases in the context of international cultures. The general components of discourse within deaf culture are examined to make readers cognizant of the often unrecognized and unconscious assumptions that influence mutual understanding.

After an overview of what culture is, the aspects of culture that contribute to the meaning of interpersonal communications are examined. Elements like the location of people during their interactions (proxemics) or the paralinguistic features of communication like intonations, rate of speech, volume and distribution of silences are discussed in relation to the risk of misinterpretation in any encounter. Similarly, eye gaze, facial expression, and gestures can determine the success of communication, particularly in the context of intercultural relations. The author identifies variations of these characteristics of communication primarily as they pertain to international cultures (collectivist and individualistic) and to deaf culture. However, these features also reveal the values of a culture, including the values of deaf culture. The point is made that values underlie differences between cultures. Furthermore, the values that define one’s cultural orientation serve as markers for those who are trusted and regarded as belonging with other members. The person or group that is trusted shares in decision-making and is seen as deserving of reciprocity in verbal and behavioral exchanges with like-minded others. The person who is regarded as “belonging” is inevitably able to communicate more easily because meanings are already shared and implicit assumptions about what is being communicated make explanations unnecessary. This is especially true when a deaf interpreter attempts to achieve a fluent personal or professional conversation with deaf people.

Chapter 3 describes how intercultural values influence attitudes toward the behaviors exhibited by members of a culture. For example, the non-deaf may expect others to be punctual, whereas the deaf tend to arrive late and stay late. It is argued that the deaf share time-oriented attitudes and behaviors that resemble those in South America or collectivist parts of Asia. Likewise there tends to be a past rather than a future orientation among the deaf that is also true of cultures
like Iran and India that revere their traditions and historical accomplishments. In the case of deaf individuals, pioneers of the past whose struggles paved the way for contemporary opportunities are typically the referents for decisions. Thus, international culture provides a framework for understanding the value placed on subjective reasoning and why objective facts are often not the basis for persuasive arguments among the deaf.

Essential distinctions between American culture and other international cultures that also define differences between non-deaf and deaf cultures are addressed in chapter 4. Americans are fond of assuming their own uniqueness and that there is no such thing as a typical American. But the author notes that many features of American culture distinguish it from other world cultures and from deaf culture. For instance, the pride that Americans feel about their self-reliance and independence is not shared by cultures like the Chinese who are proud to be able to depend on their family for support. And the Japanese regard self-reliance as a sign that one has no identity. Similarly, in American Deaf culture mutual dependence is a survival tactic that carries no stigma. Correspondingly, a person’s achievements are regarded by the deaf as group accomplishments consistent with a collectivist identity. In addition, like the pattern exemplified by collectivists, their friendships tend to be deep and long-lasting compared to non-deaf friendships which may be greater in number, but linked to specific activities like school, job, or hobbies. Deaf friendships share qualities of intimacy and a strong sense of mutual obligation that are reminiscent of Japanese and Russian friendships and those of other traditional collectivists. On the other hand, egalitarianism is a norm in both deaf and non-deaf American relationships, without the formality and consideration for status that is coded into actions and forms of address like those used in German, Japanese, and other vertically collectivist cultures.

One outcome of Knowing deaf culture and its relationship to other world cultures is that interpreters and other communicators with the deaf are provided with a framework for delivering and receiving information. The author describes the style of communication between American deaf individuals in chapter 5. How persons were acculturated into deaf culture suggests the mandate that American deaf and interpreters must follow. Many deaf children attended residential schools and relied on ASL and lip-reading as they helped each other cope with life in a hearing world. This aspect of growing up deaf is one major factor producing the collectivist values in deaf culture that are expressed by reciprocity between deaf individuals and an emphasis on group decision making.

It is interesting, though it makes sense, that deaf people prefer a direct form of discourse not unlike the blunt German style or the sandpaper-like Israeli “I disagree” approach. Hinting and vague talk in an effort to be polite can lead to ambiguity for which deaf individuals have no patience. Direct expression is generally seen as honest and authentic, unlike the potentially insincere, and artificial style that some regard as “being smooth.” The deaf emphasis on direct and unembellished communication affects several aspects of deaf culture concerned with sharing information with insiders and outsiders. For starters, insiders (other deaf persons) are favored in the same way that other minorities show favoritism to the members of their group. They frequent their own establishments, value time spent together, and regularly hug. Group members feel a familial closeness that quickly leads to an intimate sharing of personal information unadorned by censorship. By understanding these and other unique features of deaf culture can make exotic to hearing individuals. However, the attributes that deaf culture shares in common with other world cultures legitimize the identity experienced by its members.

Specific attributes that facilitate comparisons between deaf culture and particular world cultures are identified in chapter 6. For example, Asian culture has a hierarchical family structure with the father possessing unquestioned authority and the mother responsible for teaching the lessons of culture to the children. The role of the first born instills a sense of duty, whereas the youngest child experiences indulgence. The style of communication may be to use a softer tone and
slower pace that allows reflective thinking to avoid hurting another’s feelings when disagreeing. Asians are more reserved than other cultures about physical contact, and they seek emotional restraint. Asians may blame themselves for their deafness, attributing it to poor karma for which ancestors may be held responsible. The idea of saving face has strong implications for how interpreters interact with the Asian deaf.

African American and Black deaf (including Barbados, Jamaica, Haiti, and Trinidad) conform to collectivist values that focus on the extended family for mutual support. Here also, elders fulfill strong roles in the community, but without the extreme authoritarianism that is characteristic of Asian families. The discourse style of the Black deaf also has more emotional intensity due to overlapping and interjections. Specific pointers are provided for interpreters who are working with Asians or with Blacks. Similarly, the author provides culture-specific pointers for interpreters working with Latinos or various nationalities from Central and South America, and for American Indians. In each case, however, the culture is analyzed in depth according to its distinctive attributes and values, and the behaviors of its members.

The remainder of this text examines the role of technology on changes in the cultures already described. Applications to medical appointments, educational settings, and job interviews are also examined by reviewing several of the most likely deaf versus non deaf vignettes in each context. Additional suggestions for interpreters follow in chapter 9 as interpreting challenges related to each culture are described. The interpreter’s role and responsibilities are spelled out; and techniques for cultural adjustments among interpreters are described.

This book provides much more than an overview of world culture, deaf culture, and the work of interpreting for deaf individuals. It provides excellent reading for anyone researching the components of specific world cultures and the best routes to mutual understanding, both by people who do the communicating and those who receive the communications. This text offers indispensable insights into how individuals become members of their cultures, the attributes and behaviors of cultural adherents, and the best ways to communicate with group members.

About the Reviewer:

Dr. Rolf Holtz is an associate professor at Troy University. He received his PhD in social psychology from the University of Southern California. Currently, his research focuses on links between collectivism, and social and academic motivations. He has also conducted work in Aceh, Indonesia, on the impact of civil war and cultural orientation on authoritarianism.

Editors’ note:

This book review was received in June 2013. We are unable to share the print and digital copy of his book review with Dr. Hotlz as he passed away on Wednesday, September 5, 2013 because of an unexpected liver and kidney failure. Dr. Holtz was one of the associate editors in the Journal of International Students since 2011. He was also an inspiring educator/researcher who supported Dr. Krishna Bista, founder and editor-in-chief, to establish this peer-reviewed journal in 2010. This volume of the journal is dedicated in memory of Dr. Hotlz.
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