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# Understanding Undergraduate Students' Perceptions of International Teaching Assistants

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UNDERSTANDING UNDERGRADUATE STUDENTS' PERCEPTIONS OF
INTERNATIONAL TEACHING ASSISTANTS

by

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B.A., University of Dhaka, Bangladesh, 2002
M.A., University of Dhaka, Bangladesh, 2003

A Dissertation
Submitted in Partial Fulfillment of the Requirements for the
Doctor of Philosophy Degree

Department of Curriculum and Instruction
in the Graduate School
Southern Illinois University Carbondale
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DISSERTATION APPROVAL


UNDERSTANDING UNDERGRADUATE STUDENTS' PERCEPTIONS OF
INTERNATIONAL TEACHING ASSISTANTS



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A Dissertation Submitted in Partial

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Doctor of Philosophy

in the field of Education



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AN ABSTRACT OF THE DISSERTATION OF

Asma A. Khan for the Doctor of Philosophy degree with a concentration in Curriculum and Instruction, presented December 7, 2012, at Southern Illinois University Carbondale.

TITLE: UNDERSTANDING UNDERGRADUATE STUDENTS' PERCEPTIONS OF INTERNATIONAL TEACHING ASSISTANTS

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The purpose of this mixed method study was to better understand undergraduate students' perceptions of international teaching assistants (ITAs) at a major research institution. For the purpose of this inquiry data were collected from surveying a sample of 436 of undergraduate students from different colleges and at different class levels. Survey data were analyzed both qualitatively and quantitatively. Through the qualitative analysis of the open-ended survey data, undergraduate students' perceptions were derived from their responses, which resulted in themes both established in previous research (e.g., language), and original ideas (e.g., learning to understand ITAs language).

Qualitative analysis of the survey data revealed that undergraduate students' perceptions of ITAs were varied and complex. For example, one perception identified was the connection of language to pedagogic difficulties, while another perception focused on the interactive construct of communication. Further, the quantitative analysis revealed a statistically significant relationship between these two relational perceptions and undergraduate students who reported having experienced problems with ITAs in their classes. More specifically, students who indicated that they did not have problematic experience with ITAs were not very likely to articulate perceptions that were relational, whereas more students that did report having a problem in courses taught by ITAs articulated perceptions that involved an interaction (e.g., communication and language as a barrier interfering with pedagogic performance of ITAs).

The findings from this study thus provide a critical understanding of undergraduate students' perceptions from their perspectives. In addition, the finding that language-pedagogy and communication were connected by undergraduate students who had encountered problems with ITAs, suggests that instead of ITA education programs addressing the challenges of accommodating the needs of individual departments and/or colleges in a university (Jia & Bergerson, 2008), ITA education would benefit more from focusing on language in relation to pedagogy.

# DEDICATION

This dissertation is dedicated to the memory of my father, who would have been so proud. This work is also dedicated to my mother, my example of a strong, kind and wise woman; to my husband, without whose support I could not have undertaken, much less finished this project – can't thank you enough for believing in me and putting up with my extra work load, my impatience. And last but most definitely not the least, this dissertation is dedicated to my daughter –I could have never done it without you.

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# CHAPTER 1

# INTRODUCTION

## Statement of the Problem

Graduate education can be considered as a major part of American higher education, with about 1.75 million students enrolled in graduate programs in universities across the U.S. (Council of Graduate School, 2009).  Among them, about one fifth are graduate students pursuing doctoral degrees (Council of Graduate School, 2009).  Out of this number, a significant number of graduate students hold teaching assistantships to pay for their tuition and to earn a stipend.  The tasks of teaching assistants range from grading and conducting discussion classes to teaching classes as independent instructors.  Whatever their tasks are, they require "broad and complex…support" (Jennings, 1987, p. 5) from the institution in which they are studying and teaching.  This support is particularly invaluable to international teaching assistants (ITAs), particularly non-native English speaking teaching assistants, who have to teach in a language that is not their native language in addition to adapting to a new classroom culture.

This challenging task of teaching in a new environment and in a second language is exacerbated by the responses met by ITAs from some undergraduate (UG) students and their parents.  In the 1970s and early 1980s, UGs' complaints about ITAs' lack of language proficiency and their unfamiliarity with U.S. education culture appeared in the national press (Smith, Bryd, Nelson, Barrett, & Constantinides, 1992).  The parents of UGs, in particular, pressured legislators and university administrators to solve the "foreign TA problem" (Bailey, 1983, p. 309).  The result has been the passing of laws or mandates to assess the language skills of ITAs.  Some mandates even require ITAs to complete training programs or short courses to develop language and pedagogical skills (Smith et al., 1992).

Prior to the development of these ITA programs, research on ITAs was conducted beginning, for example, with the works of Mestenhauser and his colleagues and Bailey in the 1980s.  In the Mestenhauser et al. (1980) survey of 404 students at the University of Minnesota, forty-three percent of students perceived that ITAs had negatively affected the quality of course and nine percent believed that ITA had helped improve course quality.  Bailey's research focused on communication difficulties of ITAs in U.S. universities with attention to the problems of the TA system as a whole.  As research in this field continues to grow, the areas most often researched are ITAs language proficiency followed by intercultural communication between ITAs and their students (Smith et al., 1992).  Inherent in these areas are UGs' evaluation or perceptions of ITAs. Researchers are increasingly finding value in involving UGs' evaluation and perception of ITAs to strengthen ITA programs (Sarwark & vom Saal, 1989).  Yule and Hoffman (1993), for example, explored the possibility of involving UGs in the ITA screening process.  In their study, they recruited UGs to listen to ITAs presenting basic instructional material from their fields.  The evaluation scores given by the UGs were then compared to evaluation scores given by ESL (English as a second language) instructors to check for inter-rater reliability.  The results showed that the UG observers were overwhelmingly in agreement with ESL instructors in terms of their evaluation of the ITAs.  The advantage of involving the UGs in the evaluation process is that it provides validation of the verdicts of ESL professionals regarding the readiness of ITAs to assume instructional duties.  Moreover, it involves the very party whose "complaints provided the impetus for ITA programs to be created and screening procedures to be required" (Yule & Hoffman, 1993, p. 326).

UGs' perceptions were also studied under the assumption that they can provide invaluable insight into the situation, which has been dubbed as the "foreign TA problem" (Bailey, 1983, p. 309).  Numerous researchers who have examined UGs' perceptions of ITAs

have identified both linguistic and non-linguistic factors affecting UGs' perception of ITAs.

Hinofotis and Bailey (1981), for example, in their investigation of UGs' comprehension and

attitude toward ITAs found that UGs complained most about language proficiency,

communication, and delivery of their ITAs. The UGs ranked pronunciation as the top most

problem area in ITAs' overall ability. Rubin and Smith (1990), on the other hand, found that

accents of ITAs were not as potent determinants of UGs' perceptions and comprehension as

were factors like ethnicity and the lecture topic. The impact of this latter factor was also part

of Bailey's (1983) study, where the participating UGs perceived ITA's communicative

competence to be more negative if the ITAs were teaching courses that were outside of UGs'

majors compared to ITAs who were teaching courses that were in UGs' major areas.

This study was a continuation of these previous studies in terms of studying UGs'

perceptions of ITAs. However, the primary focus of the study was to analyze the relationship

between UGs' perceptions of ITAs and the colleges the UGs are studying in using a mixed

methods design. The rationale for combining quantitative and qualitative approaches

(Creswell, 2003; Tashakkori & Teddlie, 1998) was that the quantitative data and results

provided a general picture of the research problem (e.g., what differences there are in terms

of courses taken by UGs between colleges which are instructed by ITAs), while the

qualitative data and analysis sought to explore UGs' experience and perceptions of receiving

instruction from ITAs.

### Purpose of the Study

The overall purpose of this mixed methods study was to come to a deeper

understanding of UGs' perceptions of ITAs at a major research institution. More specifically,

the study examined the relationship between UG students' perceptions of ITAs and the

colleges from which they were majoring. For the purpose of this inquiry both quantitative

and qualitative data were collected from surveying a sample of UG students. The data were

then analyzed both qualitatively and quantitatively to broaden the understanding of UGs'
perceptions of ITAs in relation to their colleges and to explore other variables or factors that
might influence UGs perceptions of ITAs.

**Research Questions**

The quantitative research questions for this study were

1. What courses do UG students most frequently report as taught by ITAs?

2. What differences exist among colleges in the number of courses UG students *report
   are instructed* by ITAs?

The qualitative research question was:

3. What are UG students' perceptions of ITAs' instruction?

And the mixed research question was:

4. What relationships exist between UG students' perceptions of ITAs and the colleges
   in which the students are from?

## Acronyms and Terminologies

Throughout this study an acronym that was used is ITA. The international teaching
assistants or ITAs are non- U.S. citizens who serve as the instructor of a course, lab or
discussion sections. These assistants are from non-English speaking countries, where English
is not the primary language of communication.

The second acronym that was used in this study is UG. The UGs are students in their
freshman, sophomore, junior and senior years, who are studying at a research university in
the Midwest, which typically employs teaching assistants as instructors in UG courses.
These UGs include those who have already decided on their majors as well as those who have
not yet declared their majors.

**Significance of the Study**

This study may prove significant in contributing to the area of research related to UGs' perceptions of ITAs and in posing numerous pertinent questions to guide future research.  The main significance of this study lies in the notion that, although a significant body of literature about ITAs exists, none of the research studied focused solely on UGs' perceptions of ITAs in relation to different colleges.  The studies that have investigated UGs' academic discipline or college as a factor in their perceptions of ITAs did so primarily through rating scales with pre-set categories set by the researchers.  This study, using an open-ended survey format, allowed UGs to articulate their perceptions in their own words.  This knowledge can provide useful insights to ITA educators who are considering whether or not to develop ITA training programs that address the challenges of accommodating the needs of individual colleges in a university.  In other words, knowledge and understanding gained from this perspective can provide useful insight to ITAs and, most importantly, to ITA educators about issues that impact UGs' perceptions of ITAs and potentially offer recommendations for ITA education programs.

**CHAPTER 2**

**REVIEW OF THE LITERATURE**

The purpose of this chapter is to contextualize this study in the extant literature about ITAs. The review is organized in two broad sections. The first section traces the emergence of ITAs in the U.S. higher education system. The second section provides an overview and synthesis of research on ITA instructional performance as perceived by their students.

**Historical Overview of ITAs**

The concept of graduate assistantship was first introduced in the U.S. at Yale, Harvard and John Hopkins University during the 1800s where it started off as graduate fellowships, providing practical training opportunities to future teacher scholars. According to Lewis (1997), these fellowships involved graduate students working closely with faculty members. The primary function of the teaching assistant was to assist ". . . professors in a specific course, primarily by grading and preparing class materials. Seldom if ever, did these graduate teaching assistants [had]… direct contact with UG students" (Lewis, 1997, p. 1). However, teaching assistants soon began to assume teaching roles when enrollment dramatically increased after World War II. As a result of the GI Bill "a quarter million veterans rushed into more than 2,000 campuses for higher education. The great influx of veterans into the post-secondary education system highlighted the need for classroom instructors" (Luo, 2000, p. 9).

International students and consequently ITAs came into this setting when academic institutions felt challenged and compelled to place more emphasis on research with the launch of Sputnik (Kaplan, 1989). The National Defense Education Act (NDEA) was passed in1958 to provide low-interest loans to students studying in the fields of science and technology. Scholars from all over the world came to the U.S. to take advantage of this act. According to Kaplan (1989), "…U.S. retained its preeminent position as the center for

science and technology with an exceptionally high standard of living. These phenomena served as a magnet to the developing world whose students strove to participate in the opportunities available here" (p. 109). As a result, international student enrollment steadily increased over the past fifty years. According to *Open Doors 2006* (Institute of International Education, 2006), till 2005, a total of 15,659,550 international graduate students have attended U.S. universities and colleges.

Interestingly, during this time of increase in international students in U.S. graduate schools, the number of Americans studying for advanced degrees decreased (Smith et al., 1992). For example, in 2006, international students represented 53% of total enrollment in biological sciences, engineering, and physical sciences (Institute of International Education, 2006). Further, the number of foreign students that applied for graduate studies in engineering was greater than the number of U.S. students (Institute of International Education, 1999). The overall result of the increase in UG student population and decrease in domestic graduate students in some fields was assistantship opportunities for international graduate students. Although statistics on current number of ITAs are not available, Clayton (2000) noted that the "evidence of the growing number of foreign teaching assistants is indirect. Nobody measures the nation's supply of teaching assistants" (p.16).

### UG Students' Perceptions of ITAs

Similar to U.S. American English speaking teaching assistants who often function as instructors in UG classrooms, ITAs also have teaching responsibilities. Since the classes they teach are often first year introductory classes (Smith et al., 1992), the chance of ITAs instructing UG students is substantial. Or as Smith et al. (1992) says, "…the majority of U.S. undergraduates …have comparatively limited but intensely important contact with ITAs" (Smith et al., 1992). However, this experience has not always been perceived positively by UGs and other stakeholders, namely, the parents of these students.

Comparative research to explore who are better instructors – domestic teaching assistants or ITAs, suggest no significant difference between the academic achievements of UG students taught by either domestic or international teaching assistants. Jacobs and Friedman (1988) used courses with common departmental final examinations and multiple sections taught by foreign and native graduate students. Their findings indicated that ITAs were as effective in teaching UGs as domestic TAs. The data also did not indicate a great deal of student dissatisfaction with the ITA in the courses investigated. Borjas (2000), on the other hand, confirmed his hypothesis, based on a survey of UG students in intermediate Microeconomics classes at a large public university, that ITAs have an adverse effect on the scholastic achievement of American UGs. Using the same data set, Marvasti (2005), however, demonstrated that while ITAs appear to have an adverse effect on the academic performance of native students, the effect does not seem to be due to the lack of language proficiency of the foreign-accented ITAs. Flesher, Masanori, and Weinberg (2002) showed little evidence of the adverse effect of ITAs on UGs' grades by using data set from Ohio State University. In fact, in some cases, their results show a significant positive effect for the ITAs. They also found that the drop rate is actually lower for the ITAs than for the domestic TAs. Yet, reservations exist among UGs, their parents, faculty and the general public regarding the teaching abilities of ITAs. The criticisms are most "acute when international teaching assistants from non-native English speaking or non-Western backgrounds teach basic required courses that are used for screening entrance into business, scientific, and technical fields of study" (Smith et al., 1992, p. 4).

**Legal and Administrative Responses**

The complaints against ITAs, thus became a legal issue when the outcry of UGs, their parents and the media became strident. The legislative response to these complaints and criticisms has resulted in system-wide mandates to assess the language skills of ITAs and

train them when deemed necessary.  The first assessment ITAs encounter is same as that of

any international students coming to study in the U.S.  Some common language tests that all

international students have to sit for are the Test of English as a Foreign Language (TOEFL),

International English Testing System (IELTS), the Michigan Test of English Language

Proficiency (MTELP) (Smith et al., 1992).  These tests, TOEFL in particular, are meant to

confirm the "minimum level of English language competence the particular institution

believes is necessary for a prospective student to function successfully at that institution"

(Wylie & Tannenbaum, 2006, p. 1).

Upon arrival to their universities, however, ITAs are often tested specifically for oral

proficiency, through such tests as the Test of Spoken English (TSE), the SPEAK test or oral

interviews.  Ginther (2003) categorizes these oral proficiency tests into three categories:

indirect (a test of language, but not the spoken language the ITA will use in their

assistantships, such as the TOEFL); semi-direct (a test of oral language but not in an

academic context, and again not the language the ITAs will use in their assistantships, such as

the Test of Spoken English); and direct (a test which matches teaching assignments, such as

an oral interview or microteaching).  Either based on scores of these above tests or as a

requirement, ITAs are often asked to participate in training programs to help them in

becoming better teachers (Gorsuch, 2003).  The formats of these ITA training programs vary

from institution to institution, from college to college and from department to department.

The training sessions are typically sponsored by the graduate school or an English language

center, ranging from programs that are a few hours to a number of weeks, or an entire

semester (Kaplan, 1989).  The curriculum of these training programs typically includes

language skills, but may also incorporate cultural study and pedagogical knowledge.

Despite these legislative and administrative efforts, UGs are still unsatisfied with

ITAs.  According to a report on *International Herald Tribune*, dozens of UGs in a number of

universities across the nation expressed their grievances with the instructional quality of ITAs (Finder, 2005).  Some even claimed that their decisions about what majors to pursue were influenced by which courses were taught by ITAs.  One UG at Berkeley, for example, who wanted to go to medical school, changed her major from chemistry to economics because of her experience with ITAs as a freshman.  Another UG at the University of Massachusetts, dropped courses twice in the first few days of class because he could not understand his ITAs in both the classes.

It's not surprising, therefore, that there are instances where some severe legal actions against employing ITAs in teaching UGs are suggested.  For example, in 2005, North Dakota State Representative, Bette Grande, proposed a bill that foreign-born instructors, which include ITAs, should not be assigned any instructional tasks if they cannot speak English clearly.  Moreover, students "would be entitled to withdraw from the class with no academic or financial penalty – and would even get a refund" if they file a report that they cannot understand "what the heck their foreign-born instructors are saying" (Gravois, 2005, A 10).  Furthermore, if ten percent of the students in a class come forward with complaints of unintelligibility of their instructors, the university would transfer the instructor to a non-teaching position (Gravois, 2005).  Although, this bill was not passed and is currently undergoing modifications, it is indeed reflective of the nationwide concern of the implications of instructors' linguistic competence in U.S. higher education system.

Beginning with Bailey's landmark study on the "foreign TA problem" (Bailey, 1983, p. 309), researchers have continued to study the instructional challenges of ITAs and the implications in the U.S. higher education.  Smith and her colleagues (1992) observed that most of these studies on issues relating to ITAs investigate the communicative competence of ITAs, showing that problems arise from both language and non-language factors.

**Language abilities of ITAs that contribute to communicative problems – as perceived by UGs**

In the existing studies on ITAs, UGs perceive inadequate linguistic ability on the part of ITAs to be the primary reason for communication breakdown in ITA-UG interaction. There have been many studies that confirm that language attitudes are acquired early and tend to be persistent. Day (1982), for example, reported that children as young as 3.6 years can accurately discriminate between high prestige and low prestige dialects of English. And children often use this information to make competence and power judgments about others. Therefore, it is not surprising that UGs in the U.S. are likely to equate non-native, accented English with communicative incompetence (Bresnahan & Kim, 1993).

For example, in a survey of UG students, Hinofotis and Bailey (1981) found that students perceive pronunciation as key in successful oral communication. In this study, a sample of UG students at the University of California, Los Angeles (UCLA) rated videotaped speech samples of ITAs from various academic disciplines in a role play situation before and after instruction in oral communication. The ratings were in the areas of language proficiency, delivery and communication of information. In the results, which were later corroborated to the ratings given by ESL professionals in an earlier phase of the research, ITA's pronunciation ranked first in the perceived criteria of successful oral communication.

Later, when Bailey (1982 as cited in Bailey, 1983) further investigated UG students' perceptions of the communicative competence of ITAs through a survey of 392 UCLA UGs, she found that UGs perceive their understanding of the subject matter to be negatively influenced by the spoken English of those TAs who had been rated lower on the Interagency Language Roundtable Oral Interview (formerly the FSI Oral Interview), a widely used test of spoken language proficiency. There were also statistically significant differences in the

students' ratings of these TAs as compared with their ratings of TAs who scored higher on the oral interview scale.

Similarly, when Tyler, Jefferie, and Davies (1988) examined ITAs' instruction through a discourse analytic examination of 18 Korean and Chinese teaching assistants, they found that ITAs' prosodic features such as stress, intonation, and pause differed from that of native English speakers. This led the UGs to perceive that ITA lectures were disorganized and unfocused. It appeared that the listener perception of disorganization arose, not because of rhetorical problems, but because of lack of or absence of prosodic and topical (foregrounding and backgrounding) cues. The discourse structure of the ITAs' speech were undifferentiated and flat, so, the native speaking UGs could not perceive the intended relationships among the ideas presented. The language proficiency of ITAs, however, has not only been perceived as limited by many UGs, but has been documented in many studies. For example, in an experiment conducted by Anderson-Hsieh and Koehler (1988) UG students listened to tape-recorded passages that were read by three native speakers of Chinese and one U.S. American. Each speaker read passages at three different speaking rates. After listening, the participating UGs responded by taking a listening comprehension test and rating the speech samples. The researchers found that the comprehension scores were significantly higher for the passages read by the U.S. American than for the passages read by the non-native speakers, and significantly higher for passages read at the regular rate than at the fast rate for all speakers. The results also showed increase in speaking rate regular to the fast rate resulted in a greater decrease in comprehension for the more heavily accented speaker than for the other speaker, indicating that speaking rate is more critical for the comprehension of heavily accented speech. In short, non-native speaking instructor's speaking rate and accent had a critical effect on UG's listening comprehension.

Furthermore, listeners' interpretation of discourse is determined not only by a speaker's pronunciation and grammar but also by discourse-level patterns of language use. Tyler (1992), in his study on comparing discourse structuring devices used by an ITA and a domestic TA, compared the planned spoken English of a native speaker of Chinese whose English discourses was perceived by native speakers of English as difficult to follow with that of a native speaker of U.S. English. The analysis revealed that there were a variety of differences in the use of discourse structuring devices, specifically in the areas of lexical discourse markers, lexical specificity, and syntactic incorporation. Tyler (1992) argued that differences in these discourse level patterns interfere with listeners' ability to construct a coherent interpretation of the ITA's discourse.

Williams (1992) further suggested that explicit marking of discourse structure is a crucial element of the comprehensibility of ITA production. By comparing the planned and unplanned planned discourses of 24 ITAs, she found that there was a greater difference in the degree of discourse marking than in grammatical accuracy in the two conditions. And there were noticeably more explicit discourse marking in the planned condition suggesting its vital role in comprehension.

**Non- language factors that contribute to communicative problems – as perceived by UGs**

Inadequate language proficiency and communicative competence, therefore, may indeed be legitimate concerns in the case of some ITAs even after training (Halleck & Moder, 1995). Nevertheless, there are ample studies that suggest that the ITA "problem" could very well be a problem of UGs' themselves, at least partially. Fox (1991), for example, found that forty percent of the difficulties that were identified by different stakeholders concerning ITAs could be categorized as arising from ITAs' limited oral English proficiency, and an equal percentage of difficulties arose from non-language factors such as ITA-UG interaction,

mismatched/discrepancy in expectations between ITA and UGs, and teaching skills. Orth (1982) also found that UGs' ratings of their ITAs' speaking proficiency were only weakly related to expert ratings of the ITAs' language proficiency. Rather, UGs' ratings of ITAs were biased by the grades they anticipated receiving from those ITAs (Orth, 1982). Similarly, in the QUITA (Questionnaire of UGs about International Teaching Assistants) survey, UGs who expected a C in their courses taught by ITA had a significantly lower ATITA (Attitudes about International Teaching Assistants) composite score than the students who were expecting A or B (Plakans, 1997).

Other non-language factors that Fox (1991), and later Plakans (1997), identified as influencing UGs' attitude towards their ITA are age, gender, and homogeneity factors. Females and older students (25 years and over) had significantly higher ATITA composite scores than males and young students. As regard to the region of residence, hometown size, U.S. citizenship, and international experiences of UGs, scores on the ATITA scale showed, not surprisingly, that those who had not traveled or lived anywhere other than a small town or rural area in the Midwest did not have many positive feelings toward ITAs as UGs who had grown up in urban areas, had traveled outside the U.S., or were from the West or East Coast (Fox, 1991; Plakans, 1997). Moreover, UGs who were non- U.S. citizens clearly had a more empathetic view of TAs from other cultures, possibly from having experiences with English as a foreign language. The attitudinal results, however, were only marginally supportive of the conclusions drawn, and could only offer clues to student perspectives. The results were not confirmatory because of underrepresentation of certain groups of UGs in terms of ethnic/racial background, region of residence and citizenship.

A similar case arose when Rubin, Ainsworth, Turk, and Winn (1999) investigated to see if Greek letter social organization (fraternities and sororities) affiliation of students had any effect on their attitude towards international instructors including ITAs. The findings

revealed that Greek-affiliates showed only marginally more negative attitudes towards international instructors than non-affiliates.  Both the groups, however, held same stereotypical views of their non-native instructors.  Perceptions of the instructors' status, of their friendliness, of their teaching competence and of their lecture quality were susceptible to negative stereotypes based on the instructors attributed nationality.

UGs' negative stereotyping of international people is, therefore, another reason of their negative perceptions of ITAs' communicative skills (Brown, 1988).  Backed by such data as, an increasing proportion of ITAs come from East Asia (Zikopoulos, 1988), Rubin and Smith (1990) explored the role of ITAs' ethnicity, lecture topic, and their extent of accents in their spoken English as determinants of UGs' responses.  They used a matched guise technique, which involved experimental candidates listening to apparently different speakers speaking in different levels of accents and in different topics and evaluating those speakers for impressions of teaching effectiveness.  Two native speakers of Cantonese were chosen who each recorded highly accented and moderately accented versions of classroom lectures.  One lecture was about a natural science topic (the uses and growing scarcity of helium), and the other lecture was about a humanities topic (the role of Mahabharata in Indian society).  UGs heard one or the other of the lecture topics delivered with either of the levels of accent, accompanied by a photograph of either a European or an Asian instructor.  Dependent measures included a cloze test of listening comprehension, ratings of teacher quality, and some other dimensions.

Rubin and Smith's (1990) results showed that the effects of accent were not explained by any simple response pattern.  On the one hand, students couldn't always discriminate between high and moderate levels of accent.  On the other hand, manipulated accent did affect UGs' perceptions of ITAs' ethnicity - but only when other cues were ambiguous, that is, when the photograph was European and the topic pertained to humanities.  Of greater

significance, listeners' perceptions of the instructors' accent - whether accurate perceptions or not - were the strongest predictors of teacher ratings.  When students believed an instructor's accent to be "foreign," they simultaneously perceived him or her to be a poor teacher.  Also of particular interest, listening comprehension scores were positively correlated with the number of courses the students had taken with ITAs previously.  Those students who had continued to take classes with their nonnative English-speaking instructors had been rewarded by improved skill in listening to accented speech.

In a follow-up study, Rubin (1992) further confirmed that the lack of intercultural sensitivity of UGs is a crucial cause behind communication problems in classrooms taught by ITAs.  In this study, Rubin (1992) had a native speaker of American English read two lectures onto audiotape.  UGs then listened to these audiotapes while viewing a photo of either a Caucasian or a Chinese woman in nearly identical dress and settings.  Although they heard exactly the same voice, the students who were presented with the Chinese photo understood less than those who saw the Caucasian photo.  As Rubin points out, this finding demonstrates that UGs hold an ethnicity bias, which cannot be overcome by simply providing pronunciation instructions to ITAs.

Finally, it is well known that a disproportionate number of introductory courses in mathematics and natural sciences (which has the ill-reputation of being the most difficult of introductory courses among UGs) are assigned to ITAs (Constantinides, 1987).  Therefore, some researchers found it worthwhile to explore if norms of interaction and interpretation in the classroom could differ according to academic discipline (Hoekje & Williams, 1992).  For example, in Fox's (1991) study, the lowest ATITA scores were achieved by UGs from the School of Agriculture, with significant differences between their mean score and those of students from Schools of Sciences, Liberal Arts and Engineering. ATITA scores of UGs from School of Education were also significantly low than those of Science.  The comparison

between the mean ATITA score for students from Liberal Arts also showed a statistically significant difference. Plakans' (1997) study, too, revealed similar trends. Based on the ATITA composite score, UGs in Agriculture had the most negative attitude toward ITAs. Business students were also significantly different from the most positive group, the UGs from the College of Liberal Arts and Sciences.

The scenario is further complicated when researchers explored the relationship between UGs' perceptions of ITAs and the number of classes that UGs take in their major area of studies taught by ITAs. On one hand, Bailey's (1982 as cited in Bailey, 1983) study revealed that UGs who were not majoring in the same discipline as their TAs were significantly more critical of the non-native English speakers' oral English than UGs who share a common academic major with their ITAs. On the other hand, Fox's (1991) hypothesis that a positive relationship would exist between ATITA scores and the proportion of classes with ITAs that had been in students' major fields was not supported.

It is also surprising to find that the year of enrollment variable had a U-shaped curve based on how long the student had been studying (Plakans, 1997). In this study, sophomores and juniors were more negative about ITAs than freshmen and seniors. The classic research studies about student development, such as those by Astin (1977, 1993) and Pascarella and Terenzini (1991), have examined the outcomes of a baccalaureate education. The findings suggest that freshmen may have high expectations about academic life; by the 2nd and 3rd year, after encountering some of the tough, required courses with large enrollments (where ITAs are likely to be lead teachers, laboratory assistant), they are disillusioned. Finally in the 4th or 5th year, when graduation is in sight, UGs become more empathetic toward ITAs. Several seniors in focus groups commented that if ITAs were given a chance, their students soon would get used to their accents and would find having an ITA not much different from having a domestic TA. Moreover, Byrd and Constantinides (1988) pointed out that different

disciplines have different preferred teaching styles as a caution for ESL professionals not to assume that the ESL style of teaching is appropriate in other contexts. Rounds (1987) looked at a mathematics classroom and described its unique routines and lesson organization -the nature of the classroom, the assignments, and lessons affect the organization of talk. Tanner (1991) also made an observational study to investigate student and TA questions in a chemistry laboratory pertaining to particular functions of that setting.

Thus, although some research has included UGs' college and academic discipline as a variable in the study, it does not seem to be the focus of research in this area. Further, research that has examined UGs' perceptions has been predominately from an *a priori* model. The proposed study aimed to contribute in this conversation in understanding the difference that exists between UGs' perception of ITAs in terms of different colleges from their own perspectives, and in this way uniquely contribute to research on UGs' perception of ITAs.

**CHAPTER 3**

**METHODOLOGY**

A mixed methods design (Tashakkori & Teddlie, 2003) was used for this study, which involves the collection, analysis and mixing of both quantitative and qualitative data at various stages of the research process in order to understand a research problem more completely (Creswell, 2003). The rationale behind mixing these two approaches is that when used in combination, quantitative and qualitative methods have the advantage of complementing each other and of allowing for a more complete analysis (Tashakkori & Teddlie, 1998).

### Theoretical Framework

The theoretical framework guiding the use of mixed methods research is this study is pragmatism (Tashakkori & Teddlie, 1998; Tashakkori & Teddlie, 2003), the origin of which can be traced back to the works of Peirce (1997), James (1906), and Dewey (1948, 1981). Pragmatism entered the field of research methodology when John Sanders Peirce, considered to be the *Father of Pragmatism*, borrowed the term *pragmatic* from Kant to elaborate on his theory of inquiry in scientific investigation. Peirce was committed to seek the truth as he contended, "There is one thing even more vital to science than intelligent methods; and that is, the sincere desire to find out the truth, whatever it may be" (Peirce, 1997, p. 266). In addition, Peirce was "committed to purposive action, following a plan with an end of highest good" (Hausman, 1993, p. 52). Thus, Peirce suggested that with time, all methods of inquiry would mix and result into a final conclusion (Murphy, 1961).

James elaborated on this notion of pragmatism proposed by Peirce. According to James there were two aspects to pragmatism - "Such then would be the scope of pragmatism-first, a method; and second, a genetic theory of what is meant by truth" (James, 1906, p.9). Further, he asserted that pragmatism, "has no dogmas, and no doctrines save its method," and

"stands for no particular results…only an attitude of orientation, is what the pragmatic method means" (p.9). One of Dewey's (1948) foci was on the pragmatic method of inquiry as common-sensical, ongoing, and self-correcting. According to Dewey inquiry began with identifying a problematic situation from everyday experience. The investigator then must find a solution to this problem through imagination, reasoning, or statistical calculation. Finally, regardless of the techniques used to find this solution, the results must be tested and verified by going back to the experience (Dewey, 1948). Taken together, pragmatists are "interested in examining practical consequences and empirical findings to help in…deciding which action to take next as one attempts to better understand real-world phenomena" (Johnson & Onwuegbuzie, 2004, p. 17). Thus, within a theory of pragmatism, truth is "what works" (Howe, 1988, p. 14), and as described by Johnson and Onwuegbuzie (2004), pragmatism is the search for "a middle ground between philosophical dogmatism and skepticism," and "as being both constructed and based on reality [post-positivistic]" (p. 18).

**Pragmatism and Mixed Methods Research**

Mixed methods research, now viewed as the third methodological or research paradigm (Johnson, Onwuegbuzie & Turner, 2007), is thus grounded in pragmatism (Creswell, 2003; Johnson & Onwuegbuzie, 2004). Denzin and Lincoln (2005) define paradigm as a set of beliefs that reflect the researcher's worldview, which is composed of four sets of philosophical beliefs: axiology (ethics), epistemology (knowledge), ontology (reality), and methodology (inquiry). Ethics is approached practically in pragmatism. Since pragmatism rejects any form of absolutism and universality and fosters a form of relativism, ethics in pragmatism rejects the idea that there is any universal ethical principle or universal value. It holds for ethical principles being social constructs to be evaluated in terms of their usefulness (Lafollette, 2001). When pragmatism is applied to epistemology it gives rise to the idea that knowledge is what is useful and what we believe, not something that is absolute.

Knowledge is derived from interaction among groups of individuals and the artifacts in their environment both of which create a reality (Schuh & Barab, 2008). And, according to pragmatist ontology, this reality is constantly changing as we interact with the world. Reality is relative because it looks at the interaction between the subject and the environment in order to look at how the dynamics change and "makes possible a new way of dealing with them, and thus eventually creates a new kind of experienced objects, not more real than those which preceded but more significant, and less overwhelming and oppressive" (Dewey, 1981, p. 175).

Translating pragmatic perspective into the mixed research paradigm, thus, advocates for an eclectic and pluralistic approach, where the researcher appropriately mixes methods to design a study that best answers her research questions. Instead of taking either a qualitative or a quantitative approach, mixed researchers believe that by putting together "insights and procedures from both approaches [one can obtain] a superior product" (Johnson & Onwuegbuzie, 2004, p. 17). Pragmatic researchers choose approaches, as well as variables and units of analysis, which they deem most appropriate for finding an answer to their research question (Tashakkori & Teddlie, 1998). As a theoretical framework, pragmatism bridges the conflicting philosophies underlying qualitative and quantitative research paradigm in recognizing these methods exist on a continuum (Casebeer & Verhoef, 1997). That is, rather than dichotomizing differences between quantitative and the qualitative research based on, for example: (a) numbers or words, (b) objectivity or subjectivity, and (c) seeking consensus or seeking patterns, pragmatism reconciles these differences through viewing both as sharing a unifying aim, which is to understand (Haase & Myers, 1988).

Hammersley (1992) suggested that the claim that qualitative researchers focus on meaning while, quantitative researchers concentrate on behavior is erroneous. According to Hammersley, qualitative researchers focus on meaning and also examine behaviors. He

further argues that quantitative methods, such as surveys, also seem to frequently focus on meaning. Scott and Usher (1996) additionally observe that elements of both deductive and inductive reasoning can be found in all kinds of research. Therefore, Sale, Lohfeld, and Brazil (2002) pointed out that distinctions between qualitative and quantitative methodology have become obscured and that researchers ought not be preoccupied with the quantitative-qualitative debate, as doing so will not get research done.

Therefore, Patton (1990), Johnson and Onwuegbuzie (2004), Creswell (2003) and Morgan (2007) among other researchers, contend that combining quantitative and qualitative methodologies is both possible and desirable. They advocate embracing what works practically, which means combining the two methodologies in a pragmatic way where the quantitative and qualitative research techniques function as *tools* to carry out relevant research. According to Johnson and Onwuegbuzie (2004), the combining of the methodologies entails "methodological pluralism or eclecticism, which frequently results in superior research" (p. 14).

Mixed methods research grounded in pragmatism, as such, can be considered as a dialectical blend of research methods, used together so that researcher realizes the benefits of both as well as avoid their shortcomings (Tashakkori & Teddlie, 1998). In the field of education, it is useful to use multiple methods, because understanding this complexity of phenomena often requires data from many perspectives (Clarke & Yaros, 1988).

Pragmatism and thus mixed method research has shed light on this study of understanding the relationship between UG students' perceptions of ITAs and the colleges in which they were studying. Based on the extant literature reviewed in chapter two, there are multiple variables involved in understanding UGs' perception of ITAs; yet, these variables are often examined in isolation. Therefore, framing this study in pragmatism provided a more synergistic understanding of this complex issue because it allowed for a more integrated

and holistic approach involving the combination of a range of research techniques.  In this way, broad and complex research questions could be explored without the constraints associated with using a single method or technique.  To avoid qualitative and quantitative elements of the research being designed and conducted separately, combined only at the stage of interpreting findings, the various forms of data was integrated in an ongoing and interactive way (Creswell, 2003; Tashakkori & Teddlie, 1998).  This process of integration began with the research questions and survey development, and continued throughout data collection, data analysis, and interpretation.

**Research Design**

Mixed method designs vary in nature, and have prompted researchers to devise typologies (Creswell, 2003; Leech & Onwuegbuzie, 2009; Johnson & Onwuegbuzie, 2004; Tashakkori & Teddlie, 1998, 2003) designating the levels of qualitative and quantitative contribution and/or sequencing within a specific design.  As the qualitative data collected was first analyzed qualitatively and then quantitized for further analysis, essentially the  exact same data was used for both qualitative and quantitative analysis. Thus, the typology of this study most closely aligned with a fully mixed, concurrent, equal status design (Leech & Onwuegbuzie, 2009; Tashakkori & Teddlie, 1998).    This design allowed for gathering the range of information needed to address all the complex and potentially interrelated issues and concerns and provided a detailed, holistic, and methodologically robust, rigorous account of UG students' perspective of ITAs relation to UGs' colleges.

Specifically, conceptualization of this study was an adaptation of the framework for mixed research developed by Collins, Onwuegbuzie, and Sutton (2006).  This framework was chosen because it provided for a detailed description of the multitude of design decisions and steps in the research process.  Moreover, it made room for the interactive and recursive nature of any robust research.

**Mixed Research Framework**

There are a total of 13 steps, categorized under 3 stages in this framework. The *Formulation stage* comprises step 1: determining the mixed goals, step 2: formulating the mixed research objective(s), step 3: determining the rationale for the study and the rationale(s) for mixing approaches, step 4: determining the purpose of the study and the purpose(s) for mixing quantitative and qualitative approaches, and step 5: determining the mixed research question(s). The *Planning Stage* involves step 6: selecting the mixed sampling design and step 7: selecting the mixed research design. The *Implementation Stage* includes step 8: collecting quantitative and/or qualitative data, step 9: analyzing the quantitative and/or qualitative data, step 10: validating/legitimating the mixed research findings, step 11: interpreting the mixed research findings, step 12: writing the mixed research report, and step 13: reformulating the mixed research question(s).

**Formulation stage.** According to the classification of goals of Newman, Ridenour, Newman, and DeMarcos (2003), the goal of this study (Step 1) was to have a personal and institutional impact on ITAs. Understanding UG students' perceptions of ITAs can provide useful insights to ITAs about how they are perceived by their students. But most importantly, it can potentially offer recommendations to ITA educators and UGs educators alike about what to expect and how to prepare both ITAs and UGs for ITA-UG interactions that are likely to occur throughout their academic years. For example, the findings of this study can shed light on what exact topics or issues the UG need to be aware of during their interactions with ITAs. This could help UG educators in designing, including appropriate topics and in approaching those topics in the university core foundation courses that UGs typically take in their first years. At the same time, the findings of this study could help ITA educators in deciding on what to include (for example, language, pedagogy, intercultural studies, communication studies) in ITA education programs.

The research objectives (Step 2) were to explore and describe UG students' perception of ITAs (Johnson & Christensen, 2008). The findings of the study add to the knowledge base by understanding perceptions of ITAs from UG students within different colleges. The findings of the study will also provide useful information about issues that arise from ITAs teaching in different colleges and thereby possibly offer insight into ITA education programs.

The rationale for conducting a mixed research (Step 3) can be best characterized as significance enhancement (Collins, Onwuegbuzie & Sutton, 2006), which can be achieved through the collection of both qualitative and quantitative data to secure richer data (Onwuegbuzie & Leech, 2004). The purpose of conducting this mixed research study (Step 4) was complementarity (Greene, Caracelli & Graham, 1989) meaning it measured "overlapping, but also different facets of a phenomenon" (p. 258) to increase the study's validity and interpretability. As the focus of this study was on UG students' perceptions of ITAs, complementarity increased the interpretability of understanding UGs' perceptions of their ITA instructors in terms of the colleges of UGs. The following research questions (Step 5) guided this study:

Quantitative Research Questions:

1.  What courses do UG students most frequently report as taught by ITAs?

2.  What differences exist among colleges in the number of courses UG students report are *instructed* by ITAs?

Qualitative Research Question:

3.  What are UG students' perceptions of ITAs' instruction?

Mixed Research Question:

4.  What relationships exist between UG students' perceptions of ITAs and the colleges in which the students are from?

**Setting**

The setting for this study was Orangetown State University (pseudonym), which is located in the Midwest. Orangetown State University is a Tier 1, doctoral granting research university. In Fall 2010, student enrollment was approximately 20,000 students, with 75% UGs and 25% graduates. Of these students, 46% were female and 54% were males. The university consists of 11 Colleges, 8 of which offer UG degree programs. These colleges house over 50 academic departments, ranging anywhere from two to fifteen departments per college. In Fall 2010, the largest number of UG students (i.e., 3,000) was enrolled in Liberal Arts, followed by the Colleges of Education and Arts & Sciences, which enrolled approximately 2,500 student. Student enrollment in Engineering and Agriculture was around 1,000 students, and just under 3,000 of the enrolled UGs had not declared their majors at the time of enrollment in fall 2010.

Orangetown State University seems to provide a good deal of financial support to graduate students, as 75% of full-time graduate students were awarded assistantships in fall 2010. Interestingly, of the approximately 1,700 graduate assistants (GAs) in the university, 55% were TAs. However, these percentages vary tremendously across colleges. For example, Liberal Arts provides support to over 400 GAs, with 84% serving as TAs. Similarly, in Science there were about 150 GAs with 80% serving as TAs. Conversely, TAs represent smaller percentages in Education (37% of 230 total GAs), Business (32% of 60 total GAs), and Agriculture (21% of 65 total GAs). Unfortunately, there is no record of how many of TAs are International.

The level of responsibility of TAs varies from being the primary course instructors, to lab instructors, to small group tutors, to only maintaining office hours and grading. Their remuneration typically includes graduate tuition and a stipend. Responsibility and stipend

level also vary slightly among academic departments.  TAs are typically supported in the same academic department in which they are enrolled as graduate students.

**Participants**

The participants were selected through convenience sampling (Dillman, 2000) and included students who met the following criteria: (a) enrolled in UG programs at Orangetown State University, (b) had completed at least one semester of coursework, and (c) majoring in varied disciplines from different colleges.  To access, freshman students who have completed at least a semester of coursework, the survey was administered in eight sections to 124 students of an English core class.  This course is required for most majors, and is typically recommended to be taken the second semester of freshmen year.  A section of an English honors course with 14 students was also surveyed to access students who have been exempt from taking the English core class due to their high ACT scores.  In addition, the survey was administered in upper level UG classes, in order to access juniors and seniors from varied disciplines and colleges, who were likely to have decided on their majors.  For this purpose eleven courses with a total of twenty two sections were selected as per instructors' permission from the eight colleges of Orangetown University. Two hundred and ninety eight students participated in this survey from these sections.

Initially, instructors of those courses which were requirements for programs conferring the highest number of degrees in Fall 2010 in each of the eight colleges were contacted for permission to administer the survey in their classes.  For example, in the college of business, the program that conferred the highest number of degrees in Fall 2010 was Bachelor of Science degree in management.  A course from this program was selected, which was required by all management majors, typically in junior or sophomore years.  However, it was not possible to get permission from many instructors and so those course instructors were

contacted whose courses were required by the second or third highest popular programs in several colleges.

Table 1

*Number of Students Surveyed*

| Courses surveyed in Colleges of | Survey collected |
| --- | --- |
| Agriculture | 26 |
| Mass Communication | 42 |
| Applied Sciences and Arts | 30 |
| Business | 30 |
| Engineering | 37 |
| Education | 28 |
| Arts | 64 |
| Science | 41 |
| Total | 298 |
| English core courses | 138 |
| Total | 436 |

Since the open-ended surveys collected from these participants were analyzed first qualitatively and then quantitatively, this mixed sampling design (Step 6) can be characterized as identical (Onwuegbuzie & Collins, 2007), with the same participants included in both the qualitative and quantitative phases of the study.

**Data Collection**

Based on the typology of mixed research design proposed by Teddlie and Tashakkori (2006), this study was a parallel design, with the quantitative and the qualitative phases occurring concurrently (Step 7). In addition, this study was a fully mixed concurrent equal status design because the qualitative and quantitative approaches were mixed within multiple stages of the research process, namely the data collection, data analysis, and data interpretation stage. Also, both phases were equally weighted during the data analysis stage.

A cross-sectional survey design was used, which implies that the data were collected at one point in time (McMillan, 2000).  The technique for collecting both the quantitative and qualitative data was a self-developed questionnaire (Appendix A), which consisted of 20 questions organized under two broad sections.  The first section of the survey asked questions related to the demographic, background and current educational information of the participants.  The second section of the survey consisted of open-ended questions seeking to understand the participants' perceptions and experiences in coursework with ITAs.  The survey was finalized after pilot trials, which were conducted within the contexts of courses offered in the Fall of 2011.  The survey was first administered in two different sections of an UG class, consisting of predominantly junior and senior UG students.  After administering the survey, changes were made in the format to provide more clarity.  However, what surfaced in examining the responses was that some questions were too leading and did not seem to elicit true open-ended responses.  For example, the question: *What difficulties, if any, did you face in these classes/labs taught by ITAs? Please describe in detail and provide an example, if possible,* was changed to: *Have you encountered any problems or difficulties in a class taught by ITA. If yes, please explain.*  Thus, several questions were rephrased and/or revised to make the questions as neutral as possible.

The second version of the survey was administered to two sections of a different class, which consisted mostly of sophomore and junior UG students.  The student responses from this trial indicated that the questions were more neutral.  Based upon the feedback and responses from the second iteration, minor changes were made, particularly in the instructions to some of the questions and in providing extra space for responses.

In order to determine if the survey captured student perspectives of ITAs, the data were analyzed from all four classes using an analytic coding scheme, which is explained in detail in the data analysis section.  Although there were some minor inconsistencies in some

of the responses, it was clear that students did indeed articulate their perceptions of ITAs in multiple ways throughout the different questions.  Yet, participants also did not always answer all questions, which supports the importance of retaining the range of open-ended questions.

**Survey administration**

The researcher conducted the survey (Step 8), reading aloud a detailed instruction from a script (Appendix B).  The survey was introduced as a survey that looks into how UGs feel about ITAs.  The acronym ITA was explained and a definition of what is meant by ITA was provided.

**Data Analysis**

The data collected from the survey were analyzed using sequential mixed analysis (SMA) (Onwuegbuzie & Teddlie, 2003; Tashakkori & Teddlie, 1998) technique (Step 9).  In this analysis both the qualitative and quantitative data analysis procedures were conducted in a sequential and iterative manner beginning with quantitative analyses, followed by qualitative analyses that built upon the quantitative analyses, followed by quantitative analyses of the qualitative data.

In the first stage of analysis, data were analyzed to examine what courses the participants reported were taught by ITAs.  Frequencies, means and ranges were computed for each course and for each college offering UG degrees (Research Question 1). Percentages of ITAs in each colleges as reported by students were then compared with percentages of students under each college and some university data related (number of graduate assistants and teaching assistants in each college) to develop an understanding of the nature/trend of differences in courses taught by ITAs among the colleges (Research Question 2).

In the second stage of the analysis, UG students' perceptions of ITA were examined. First, all the students' words, phrases, and sentences in the survey were read repeatedly so that the researcher became familiar with them.  Then 20- 30 surveys were taken first for a more in depth analysis which involved dividing the open-ended responses into smallest meaningful  units possible and coded for perceptions of ITAs (Appendix C).  Each significant unit was compared with previous codes such that similar ideas were labeled with the same code and new codes were developed for new ideas (Glaser & Strauss, 1967).  Then, a list of categories was developed that represented the UG students' perceptions of ITAs.  For example, the codes *difficult to understand, difficult pronunciation, speaks softly, speaks fast* together made the category of *Language- General* which encompassed codes that referred to language related negative perceptions the UGs' had of ITAs.  Similarly, the codes *smart, knowledgeable, nice, dedicated* were put together to make the category of *Personal characteristics* which encompassed UGs' perception of ITAs related to their personal characteristics.  Although some of these categories reflect perceptions in the extant research, the combining of the codes also led to the development of unique categories.  For example, the category *Language- Pedagogy* embraced the notion that the UGs perceived that pedagogy was affected because of ITA's inadequate language abilities.  This category included codes in which students independently linked pedagogical and language perceptions (e.g., *had to teach myself because couldn't understand instructions, material was under explained because ITA had problem in English*).

In a subsequent round of coding another 20-30 surveys, the coding scheme was revised by modifying several categories and adding others.  For example, the category *Learn Culture* was renamed *Learn Culture-Language* to accommodate for some students' perception that taking classes with ITAs taught them about foreign languages as well.  And the category *TA-ITA- Class Climate* was renamed *TA-ITA- Class Climate, Relatability,*

*Culture* to accommodate for some students' perception that the difference between native speaking TA and an ITA lies in classroom culture and ability to relate to students in addition to class climate. Some additional categories that were included were *Advice – Learn Culture, Advice – Personal*. Using this process for coding, the remaining surveys were coded until no new categories or revision of categories were needed and the final list of twenty-seven categories (Appendix D) was used to recode and analyze all surveys.

The third stage of the analysis was the stage in which each categories from the previous analysis was *quantitized* (Tashakkori & Teddlie, 1998). Specifically, if an UG listed a perception (i.e. category) that was eventually unitized under a particular category, then the UG was given a score of "1" for that perception or was given a score of "0" for not expressing that he perception. Percentages were computed to determine the rate of prevalence of each category. Among these 27 categories, 2 were then excluded from further analysis (i.e., *Problem not mentioned* and *TA-Same*). These two categories were not prevalent in the data and neither provided enough detail to capture the meanings of the perceptions.

These 25 categories, which were question specific, were then examined across the survey more holistically. In this stage of the analysis, the categories were collapsed and combined to form themes based on their conceptual connections. Percentages were computed to determine the rate of prevalence of each theme.

Stage 4 analysis involved conducting a principal component analysis to ascertain the underlying structure of the themes. In order to determine an appropriate number of factors to retain (Kieffer, 1999), an orthogonal (i.e., varimax) rotation was employed, in which the eigenvalue-greater-than-one rule (i.e., K1) (Kaiser, 1958) and *scree* test were used. A cutoff correlation of 0.3 was used as an acceptable minimum value for pattern/structure coefficients (Lambert and Durand , 1975). These factors represented the meta-themes (Onwuegbuzie,

2003) containing one or more of the themes (Research Question 3). The meta-themes extracted were then quantitized to dichotomous data (i.e., "0" vs. "1").

Discriminant analysis was conducted as part of the exploratory stage (Stage 5). This analysis was used to determine which of the UGs' perceptions of ITAs predicted the colleges under which they were majoring (Research Question 4). In particular, a canonical discriminant analysis was conducted and standardized coefficients and structure coefficients were computed.

Upon finding no meaningful relationships in UGs' perceptions of ITAs in relation to the UGs' colleges, and as recommended by Collins et al. (2006), the research questions were revisited and reformulated in order to more fully investigate and explore the phenomenon. Thus, an additional research question was posed, which explored any of the grouping variables did indeed discriminate UGs' perceptions of ITAs. In order to examine the multivariate relationships between the themes, meta-themes and the grouping variables (i.e., students' class level, GPA, age, gender, race, whether they had been taught by ITA or not, whether they had problem with ITA or not) canonical correlation analyses (Cliff & Krus, 1976; Darlington, Weinberg, & Walberg, 1973; Thompson, 1980, 1984) was conducted. Based on the findings of the canonical correlation analyses, discriminant function analysis was carried out to determine if the variable *had a problem* discriminated UGs' perceptions of ITAs.

# CHAPTER 4

## RESULTS

The results of the analysis of the quantitative and qualitative data are discussed under four sections. The first section contains the SMA descriptive findings of the students surveyed (Stage 1). The second section focuses on the SMA exploratory theme related findings (Stages 2 and 3) and the third section discusses the SMA exploratory meta-themes findings (Stage 4). The final section comprises the SMA confirmatory analysis findings (Stage 5).

## Stage 1: SMA Descriptive Findings

### Demographics

A total of 436 students responded to the survey. As illustrated in the demographic data presented in Figures 1 - 7, the participants comprise of a fairly good representation of UGs from all the colleges of Orangetown University. As demonstrated in Figure 1, the percentage of students from each college in the survey is fairly close to the actual percentage of students from each college in the university (Agriculture: 5 %, Applied Sciences and Arts: 16%, Business: 8%, Education: 19%, Engineering: 7%, Liberal arts: 20%, Mass Communication: 5%, Science: 9%, Premajor: 10%).
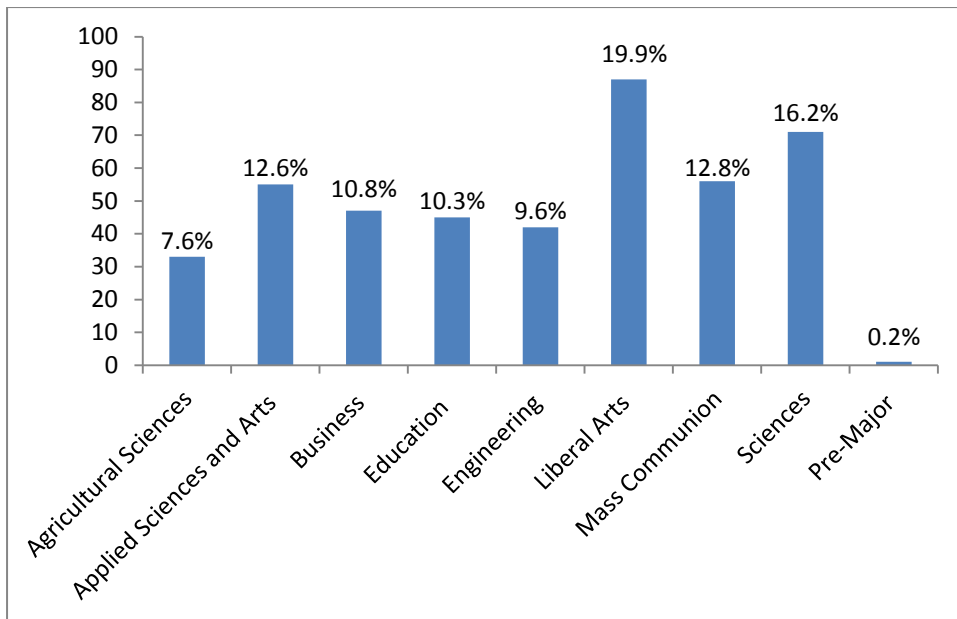
*Figure 1*. Colleges in Which the Participants Indicated Enrollment

Similarly, Figure 2 shows that the distribution of students surveyed in terms of class level is somewhat congruent compared to the actual enrollment of UG students in the semester (Freshman: 24%, Sophomore: 18%, Junior: 23%, Senior: 34%) as documented in the Orangetown University's factbook.
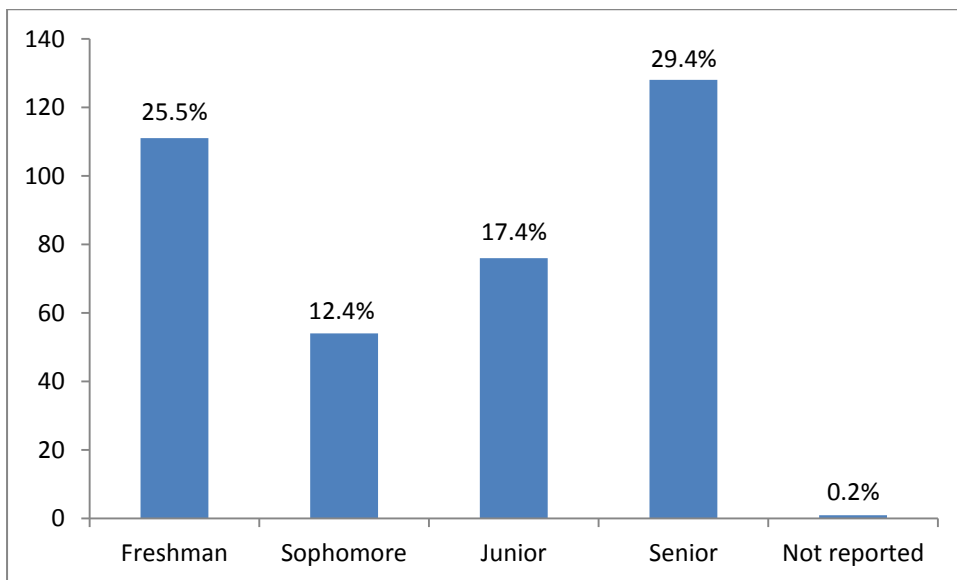


*Figure 2*. Participants' Class Level in College

As evident from Figure 3, the GPA of the majority (76.1%) of students surveyed were in the range of 4.0 – 2.9 which is comparable to the average cumulative GPA of UGs in the university which is 2.79.
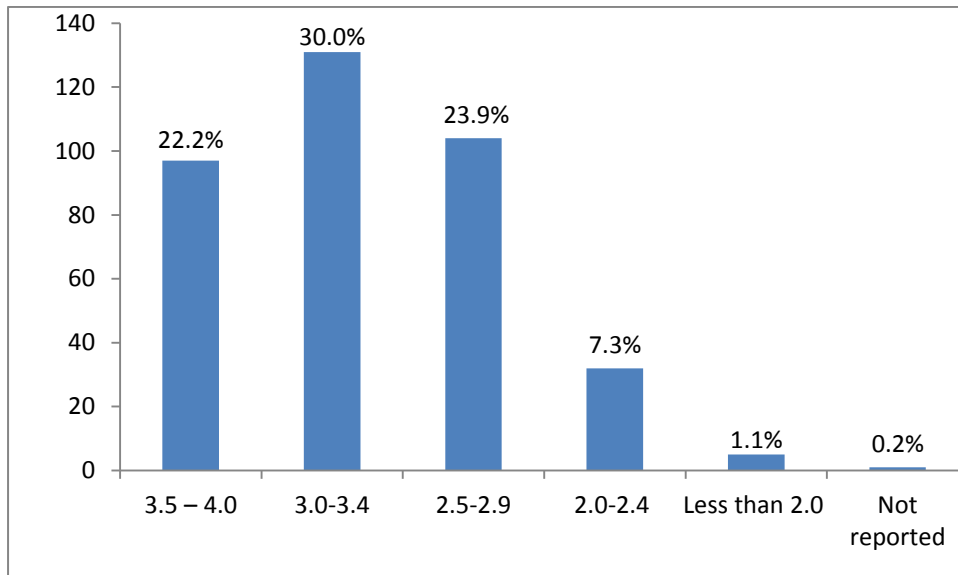


*Figure 3*. Grade Point Average (GPA) of the Participants

Approximately 90% of UGs in the survey being under the age of 25 (see Figure 4) makes it a fair representation of the actual percentage of students in Orangetown University under the age of 25 (88%).
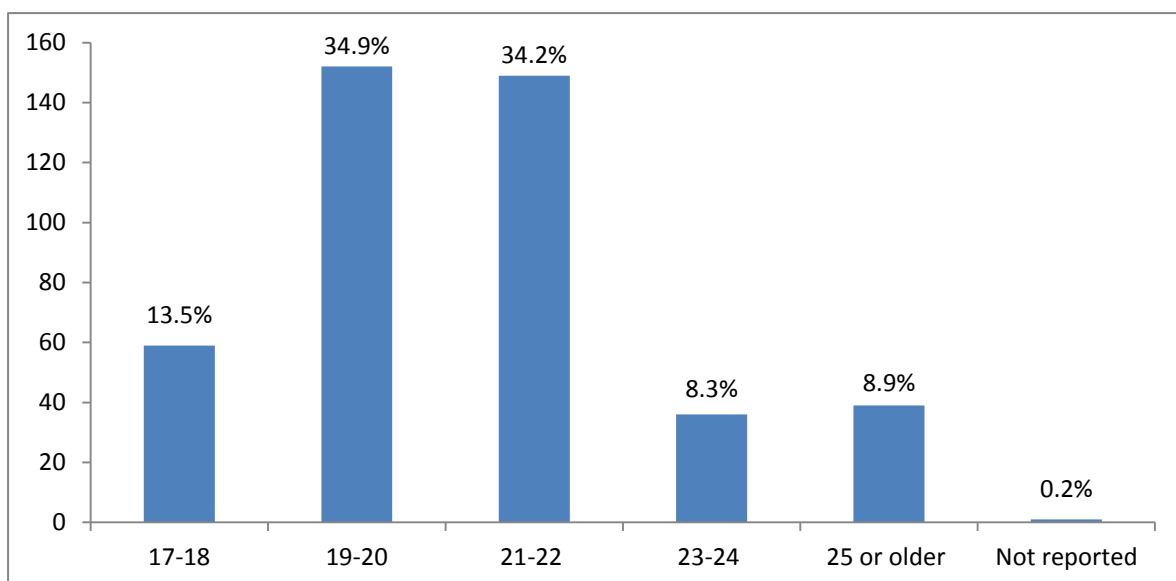


*Figure 4*. Ages of the Participants

The actual percentages of male and female UGs in Orangetown University is 56% and 44% respectively which is fairly close to the percentages of male and female in the survey (47% and 53% respectively) (see Figure 5).
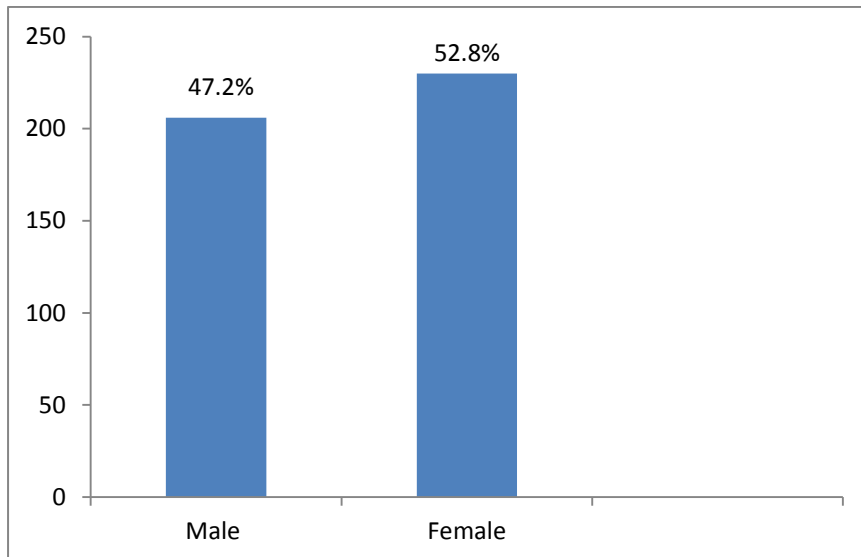


*Figure 5*.  Gender of the Participants

With minority enrollment being around 29 % in Orangetown University, the racial distribution of the students surveyed matches closely with the actual enrollment of students by ethnicity.  As Figure 6 indicates, about 70 % of the students surveyed were Caucasian, the rest 30% being from different ethnic and racial backgrounds.
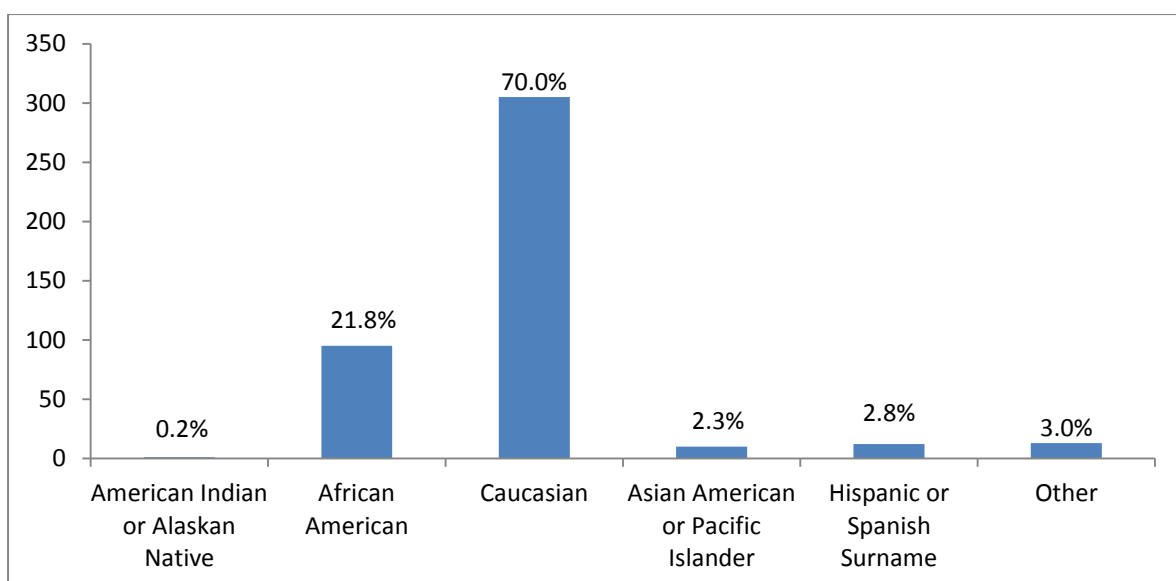


*Figure 6*. Racial Background of the Participants

As Figure 7 indicates approximately half of the students surveyed (42%) characterized the area that they grew up most of their lives as rural, the rest categorizing the area of their growing up as either urban (21.%) or suburban (40%)
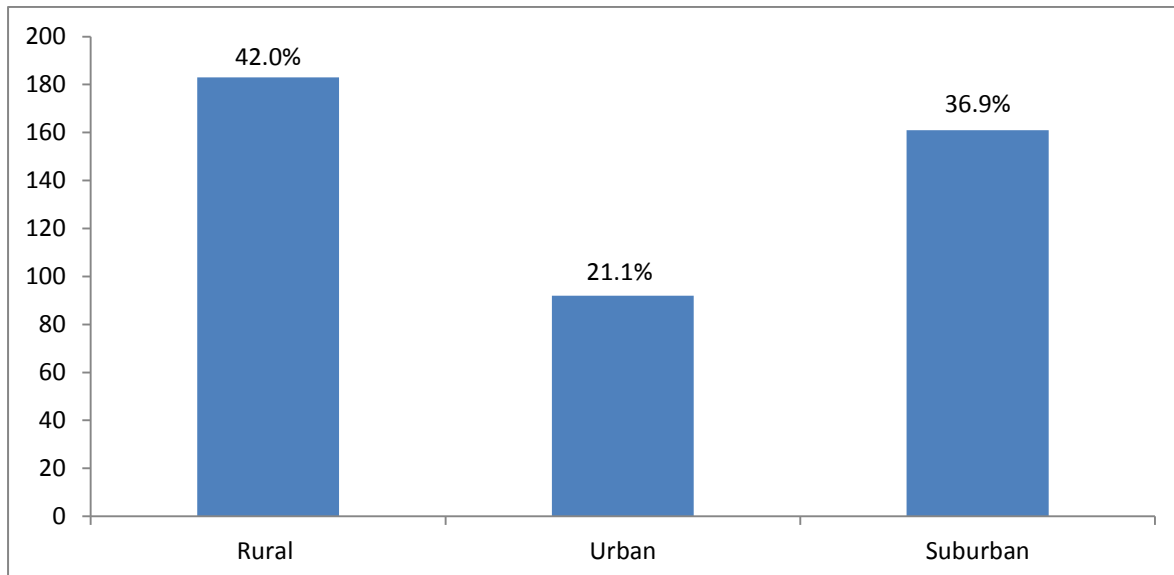


*Figure 7*. Areas Participants Grew up Most of their Lives

Only about 3% students had languages other than English as their first languages.

**Academic Studies**

For question three of the survey, the participants were asked to indicate if they had determined their majors. If they responded with "yes," they were asked to identify their majors, and if they responded with "no," they were asked to identify what majors they were considering. Ninety-six percent of the participants indicated that they had decided on a major for their UG studies. Among the remaining 17 students, 11 students identified the name of the programs in which they were considering, while the remaining 6 did not mention any preferences.

The participants represented a total of 66 majors from all eight colleges that offer UG degrees. Table 2 displays the names of the programs, the colleges housing those programs (as identified by the UGs) and the number of students studying in those programs who participated in the survey.

Table 2

*Majors of Students Surveyed*

| College | Program Name | No. of students |
|---|---|---|
| Agriculture | 1. Human Nutrition and Dietetics | 23 |
| | 2. Agribusiness economics | 1 |
| | | **24** |
| Business | 3. Advertising | 1 |
| | 4. Business | 3 |
| | 5. Business management | 3 |
| | 6. Marketing | 31 |
| | 7. Accounting | 8 |
| | | **46** |
| Applied Sciences and Arts | 8. Automotive technology | 2 |
| | 9. Aviation | 4 |
| | 10. Blacksmithing | 1 |
| | 11. Dental hygiene | 5 |
| | 12. Fashion design | 1 |
| | 13. Healthcare management | 30 |
| | 14. Mortuary science | 1 |
| | 15. Nursing, neo-natal & surgical | 7 |
| | nursing | 3 |
| | 16. Radiology | 4 |
| | 17. Architecture | **58** |
| Education | 18. Biology Education | 3 |
| | 19. Communication disorder/CDS | 2 |
| | 20. Early childhood education | 3 |
| | 21. Education | 1 |
| | 22. Elementary education | 4 |
| | 23. English education | 7 |
| | 24. Exercise science | 3 |
| | 25. History Education | 7 |
| | 26. Kinesiology | 2 |
| | 27. Math Education | 1 |
| | 28. Physical education | 6 |
| | 29. Physical therapy | 4 |
| | 30. Social Science education | 4 |
| | 31. Social work | 3 |
| | 32. Special education | 2 |
| | 33. Sports administration | 2 |
| | 34. Art Education | 1 |
| | | **55** |

*(Table 2 continues)*

*(Table 2 continued)*

| College | Program Name | No. of students |
|---------|--------------|-----------------|
| Arts | 35. Anthropology | 1 |
| | 36. Criminal justice/ criminology/pre-law | 7 |
| | | 2 |
| | 37. English | 1 |
| | 38. Geography and environmental resources | 3 |
| | 39. History | 1 |
| | 40. Political science | 71 |
| | 41. Psychology | 2 |
| | 42. Public relation | 1 |
| | 43. Communication design | **89** |
| Engineering | 44. Engineering | 2 |
| | 45. Industrial technology | 18 |
| | 46. Manufacturing systems | 2 |
| | 47. Mechanical engineering | 2 |
| | 48. Mining engineering | 1 |
| | 49. Civil engineering | 15 |
| | | **40** |
| Mass Communication | 50. Film/ Cinema & photography | 7 |
| | 51. Journalism/electronic journalism | 3 |
| | 52. Mass communication | 3 |
| | 53. Radio and TV | 38 |
| | 54. Speech communication | 1 |
| | 55. Sports broadcasting | 1 |
| | 56. Digital media and Arts | 1 |
| | | **54** |
| Science | 57. Biochemistry | 1 |
| | 58. Biological sciences/biology/pre-med | 26 |
| | | 2 |
| | 59. Chemistry | 2 |
| | 60. Computer science | 1 |
| | 61. Microbiology | 2 |
| | 62. Plant and soil science | 1 |
| | 63. Plant biology | 24 |
| | 64. Zoology | 4 |
| | 65. Animal science | **63** |

*Note.* The majors (and colleges in which they are located) reflect the participants' responses to open-ended questions. In some instances the participants identified majors not offered at the university as well as inaccurately locating their majors within colleges.

**Courses Taught by ITAs**

Eighty five percent of students surveyed reported having one or more classes taught

by ITAs. In response to a closed-ended question (with the option of multiple responses) on

how they determined whether the instructor was an ITA or not, a majority (96%) of the students selected, the ITAs' *accents*.  In addition, just over half (52%) of the students chose, the *instructors' appearances*, 21% selected, the *instructors' dress*, and 11% of the students indicated that the ITAs told them that they were internationals.  Approximately, one fourth (27%) of the students surveyed indicated that they had ITAs as instructors in the area of their majors.

When asked to select and/or write down the names of the courses taken that they believed were taught by ITAs, 49 course subjects were reported by students.  The list of courses that students reported were taught by ITAs and the frequency of students who reported taking these courses are displayed in Table 3.

Table 3

*Courses Taught by ITA s as Reported by the Participants*

| College | Course subject | No. of students | Valid % of students |
|---|---|---|---|
| Agriculture | 1.  Agribusiness economics | 2 | 0.5 |
| | 2.  Agriculture | 3 | 0.8 |
| | 3.  Human Nutrition & Dietetics | 14 | 3.8 |
| | | **19** | **5.1** |
| Business | 4.  Business | 3 | 0.8 |
| | 5.  Management | 5 | 1.3 |
| | 6.  Marketing | 14 | 3.8 |
| | | **22** | **5.9** |
| Applied Science and Arts | 7.  Architecture Studies | 2 | 0.5 |
| | 8.  Art and design | 2 | 0.5 |
| | 9.  Healthcare management | 2 | 0.5 |
| | 10. Legal aspects of healthcare | 1 | 0.3 |
| | | **7** | **1.8** |
| Education | 11. Health Education | 13 | 3.5 |
| | 12. Kinesiology | 2 | 0.5 |
| | 13. Reading for college text | 1 | 0.3 |
| | 14. Special education | 1 | 0.3 |
| | | **17** | **4.6** |

*(Table 3 continues)*

*(Table 3 continued)*

| College | Course subject | No. of students | Valid % of students |
|---|---|---|---|
| Arts | 15. Africana Studies | 6 | 1.6 |
| | 16. Anthropology | 21 | 5.7 |
| | 17. Classics | 3 | 0.8 |
| | 18. Criminology and Criminal Justice | 3 | 0.8 |
| | 19. East Asian studies | 2 | 0.5 |
| | 20. Economics | 37 | 10.0 |
| | 21. English | 24 | 6.5 |
| | 22. Foreign Language | 31 | 8.4 |
| | 23. Geography | 18 | 4.9 |
| | 24. Geology and Human resources | 16 | 4.3 |
| | 25. History | 39 | 10.5 |
| | 26. Humans and their environment | 1 | 0.3 |
| | 27. Linguistics | 6 | 1.6 |
| | 28. Music | 8 | 2.2 |
| | 29. Philosophy | 20 | 5.4 |
| | 30. Psychology | 51 | 13.8 |
| | 31. Sociology | 39 | 10.5 |
| | 32. Theatre | 2 | 0.5 |
| | 33. Women's studies | 1 | 0.3 |
| | | **328** | **88.6** |
| Engineering | 34. Engineering | **35** | **9.5** |
| *Math | 35. Math | **150** | **40.5** |
| Mass Communication | 36. Cinema & Photography | 13 | 3.5 |
| | 37. Journalism | 5 | 1.4 |
| | 38. Mass Communication and Media Arts | 3 | 0.8 |
| | 39. Radio and TV | 18 | 4.9 |
| | 40. Speech Communication | 24 | 6.5 |
| | | **63** | **17.1** |
| Science | 41. Astronomy | 1 | 0.3 |
| | 42. Biology | 39 | 10.5 |
| | 43. Chemistry | 88 | 23.8 |
| | 44. Computer Science | 26 | 7.0 |
| | 45. Microbiology | 14 | 3.8 |
| | 46. Physics | 37 | 10.0 |
| | 47. Physiology | 16 | 4.3 |
| | 48. Plant Biology | 12 | 3.2 |
| | 49. Zoology | 34 | 9.2 |
| | | **267** | **72.1** |

*Note for Table 3.* Due to a large number of students reporting that they have had ITA in Math courses, it is kept separate and does not go under the college of Science in statistical analyses.

The highest frequency of course taught by ITA as reported by the UGs surveyed was Math, as 40.5% of the students who reported having had ITAs as instructors, reported that they took classes in Math that were taught by ITAs. The second highest course reported to be taught by ITAs was Chemistry, with 23.8% of the students reporting having ITAs; followed by Psychology with 13.8% of the students reporting having had ITAs).

Among the colleges which housed the most courses taught by ITAs as reported by UGs (see Figure 8), College of Liberal Arts (88.6 %) held the first position followed by Science (72.1 %) and Mass Communication (17.0 %).
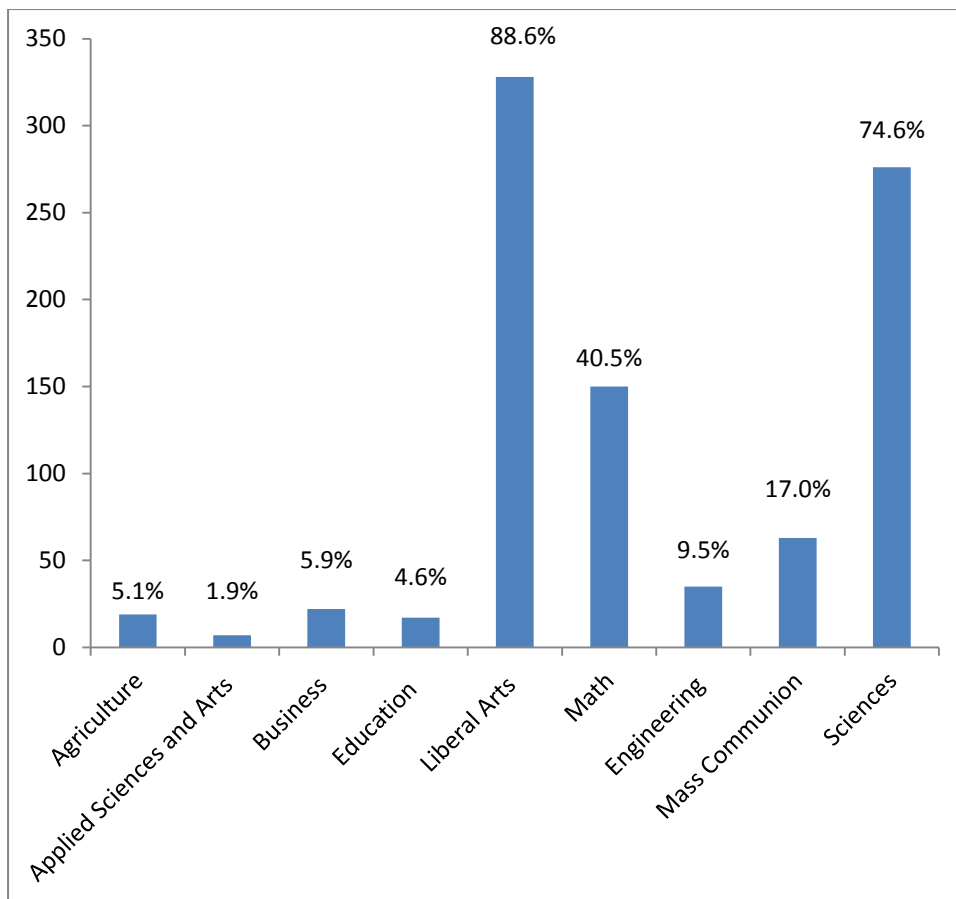


*Figure 8.* Courses Taught by ITA in all the Colleges and in Math as Reported by the Participants

In an attempt to compare data from the survey with that of the University related to ITAs across the colleges, it was found that there were a wide range of and percentages of graduate assistants and teaching assistants among the colleges (Table 4). Moreover, there is

no fixed number of courses the UGs need to take in various colleges. Therefore, it was not possible to compare the survey data with university data.

Table 4

*Comparison of University Data and Survey Data*

| College | Total No. of GAs | Total No. of TAs | % of TAs | Total No. of UGs Reporting Courses Taught by ITAs | % of UGs Reporting Courses Taught by ITAs | Total No. of Courses Reported as Taught by ITAs | % of Courses Reported as Taught by ITAs |
|---|---|---|---|---|---|---|---|
| Agriculture | 66 | 14 | 21% | 17 | 4.61% | 21 | 2.03% |
| Applied Science and Arts | 30 | 7 | 23% | 30 | 8.13% | 29 | 2.80% |
| Business | 57 | 18 | 32% | 17 | 4.61% | 30 | 2.90% |
| Education | 233 | 82 | 35% | 17 | 4.61% | 18 | 1.74% |
| Engineering | 150 | 110 | 73% | 35 | 9.49% | 86 | 8.32% |
| Liberal Arts | 516 | 431 | 84% | 203 | 55.01% | 336 | 32.50% |
| Mass Comm. | 60 | 35 | 58% | 53 | 14.36% | 66 | 6.38% |
| Science | 230 | 159 | 69% | 247 | 66.94% | 281 | 27.18% |

However, on comparing percentages of ITA taught courses taken by UGs in different colleges, some trends could be identified (Table 5). First of all, UGs in all the colleges took courses from the College of Science that they reported were taught by ITAs (ranging from 53 % to 100 %). On the other hand, UGs comparatively took fewer courses from the College of Agriculture (ranging from 0% to 9%). Secondly, ITAs who taught in the college of Business and Engineering almost exclusively taught UGs from their own colleges (38% and 90% respectively). Finally, consistently high number of ITA taught courses from the Colleges of Science and Liberal Arts were taken by UGs from all the colleges.

Table 5

*Percentage of ITA taught courses taken by UGs from different colleges as reported by UGs*

| College of UGs | % of ITA in Agriculture | % of ITA in Applied Science and Arts | % of ITA in Business | % of ITA in Education | % of ITA in Engineering | % of ITA in Liberal Arts | % of ITA in Mass Comm. | % of ITA in Science |
|---|---|---|---|---|---|---|---|---|
| Agriculture | 6.50 | 3.20 | 3.20 | 0.00 | 0.00 | 19.40 | 6.50 | 100.00 |
| Applied Science and Arts | 4.40 | 11.10 | 0.00 | 4.40 | 0.00 | 64.40 | 11.10 | 68.90 |
| Business | 7.10 | 26.20 | 38.10 | 0.00 | 0.00 | 59.50 | 2.40 | 64.30 |
| Education | 3.20 | 6.50 | 0.00 | 9.70 | 3.20 | 71.10 | 16.10 | 67.70 |
| Engineering | 0.00 | 10.50 | 0.00 | 2.60 | 89.50 | 31.60 | 10.50 | 52.60 |
| Liberal Arts | 4.40 | 1.50 | 0.00 | 10.30 | 0.00 | 77.90 | 10.30 | 52.90 |
| Mass Comm. | 8.50 | 1.50 | 0.00 | 6.40 | 0.00 | 61.70 | 55.30 | 53.20 |
| Science | 4.00 | 12.00 | 0.00 | 2.00 | 0.00 | 36.00 | 6.00 | 88.00 |
| Pre-major | 0.00 | 0.00 | 4.60 | 0.00 | 0.00 | 52.90 | 0.00 | 70.60 |

Finally, even though relatively even number of UGs from all years, namely, freshman, sophomore, junior, senior had at least one course taught by ITA, the case was not so when UGs' colleges were considered (Figure 9). For example, UGs who have had ITA taught classes from the Colleges of Engineering and Business were mostly seniors. On the other hand, UGs who have had ITA taught classes in the College of Mass Communication were mostly freshmen.
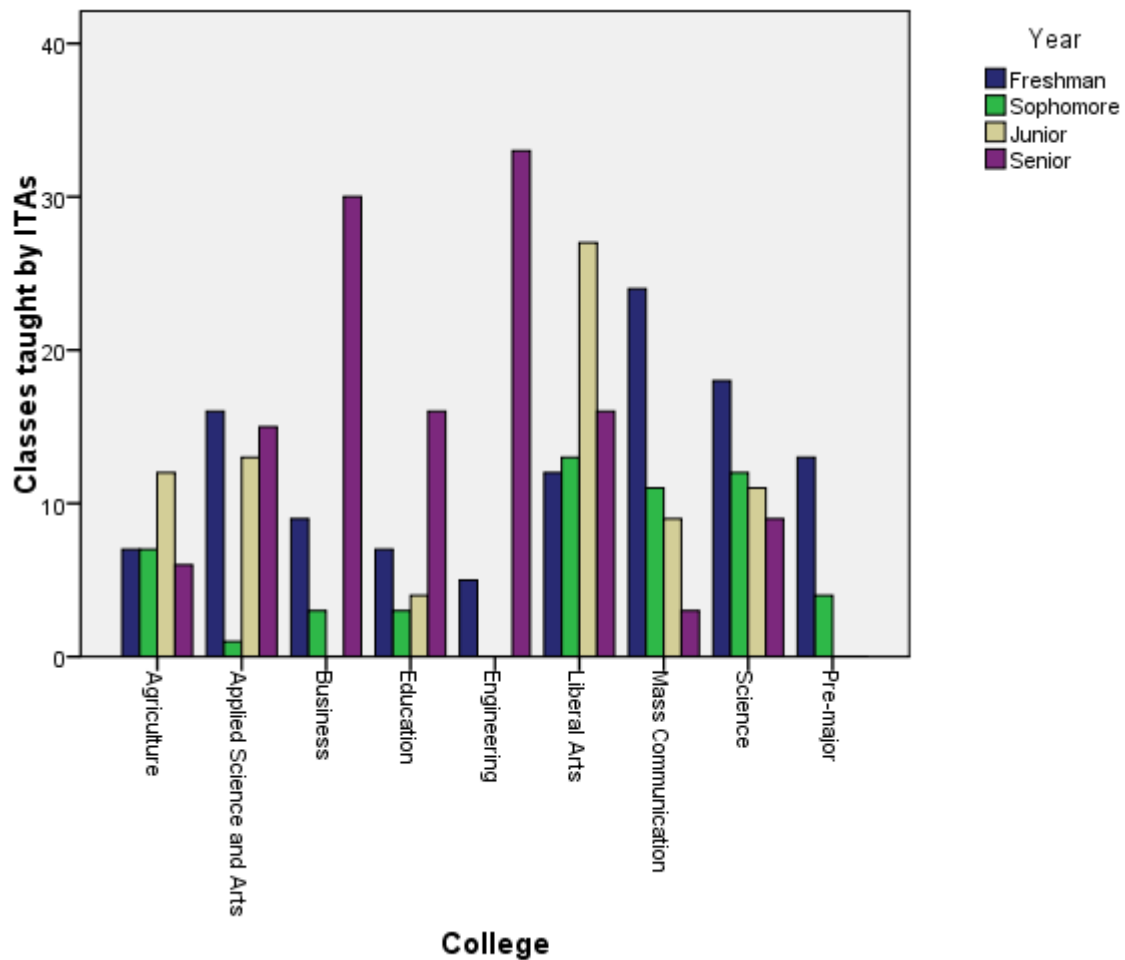
*Figure 9*. Classes Taught by ITAs in all Class Levels within the Colleges as Reported by UGs

## Stage 2 and 3: SMA Exploratory Theme Related Findings

In Stage two of the SMA, the categories were combined and reduced into seven themes: (a) language, (b) pedagogy, (c) language-pedagogy, (d) communication, (e) my culture, (f) learn, and (g) personal (see Table 6). The theme *language* encompassed the notion that UGs considered language-related issues in their perceptions of ITAs. This perception was expressed in general comments, "It is hard to understand them [ITAs]" as well as through some sharing of personal experiences, "The ITA spoke too fast for me to understand." The UGs, in particular, commented on ITAs speech as evident in the comment, "[ITA is] Hard to understand if the accent is very thick, sometimes confusing" and

in the advice, "Enunciate everything, speak slowly, and as clear as possible; practice speaking English to a large group of people before jumping into teaching a whole class". The theme of language was also reverberated when the UGS were asked to compare ITAs with their native English speaking counterparts. One UG noted that the difference between an ITA and an native English speaking TA was in "getting his/her [ITA] point across due to struggle with the language" and another remarked that the "Only advantage [of domestic TA over an ITA] would be the ability to understand the English speaking TAs better".

Pedagogy was a theme that incorporated comments that UGs made about the teaching style of ITAs. Some students made general comments such as, "[ITAs'] teaching style was difficult to follow". Others were more specific in identifying exactly what kind of pedagogical problems they experienced. As one student explained, "My Math ITA stood directly in front of the chalkboard as she wrote examples, so we could not see, and I would have benefitted by reading her lips but her back was always to me." The issue of pedagogy also came up when students compared ITAs with domestic TAs: "The differences are grading; English speaking TAs tend to grade easier, and instructions are given much better than ITAs".

In addition to general language and general pedagogy, was the Language-Pedagogy theme, which was evident when students explained their perceptions of the pedagogic consequence of language as a barrier in ITA taught classes. For example, a student wrote the following:

In Chemistry, we would do steps wrong because we didn't understand what needed to be done and the ITA couldn't explain. It would ultimately lower our grade for the experiment.

And another student commented:

I had to teach myself because I couldn't understand instructions. Sometimes it is hard for them [ITA] to get the classrooms' attention to start class or make them [students] stop talking because students have hard time understanding.

Finally, one student in identifying disadvantages with ITAs, explained it was difficult "Understanding the ITA's instructions and lessons because of the language barrier. The may know the topic but communication is difficult to teach especially if they need to explain advanced topics." Thus, students did not just state that they were experiencing language related problems in ITA taught classes, rather they established a causal relation between language and pedagogic difficulty.

Another theme that reflected more specificity in terms of language was the notion of communication or as the students expressed a communication breakdown due to ITAs' inability to understand them. Students' frustration with ITAs in terms of communication was evident when a student commented, "People are more likely to ask questions in English-speaking TA classes [as opposed to ITA taught classes] because they don't have to fight to make their question or response clear". Similarly, in expressing the following: "When they [ITAs] respond to questions I ask, it's clear they don't understand me, which is frustrating" and "Try to realize that everyone might not understand them [ITAs]," UGs seemed to be conveying an interactive idea about language; yet, embedded in this interaction was also the idea that the success of communication seemed to rely on one party only, the ITA.

The UGs also perceived their culture as the norm and saw the need for ITAs to learn and adopt that culture to become effective teachers. This theme was captured in responses such as: "I feel like the way ITAs sometimes approach the class is sometimes more difficult because they haven't grown up here and aren't used to what we're used to compared to the normal TAs who grew up here", "They [ITAs] don't understand how we do things here," and "Familiarize yourself with American customs."

However, as represented by the theme *learn,* over half of the students (60%) perceived that being taught by ITAs was an opportunity to learn about new cultures and languages.  Some comments reflective of this theme are: "They [ITA] offer a different perspective and share information about their home country", "[ITAs offer] different perspective on cultures; new ideas that may not be American", and "[ITAs] know how to speak foreign languages really well for foreign language classes".  A serendipitous finding within this theme was the idea that students can get used to and get practice in understanding foreign accents of English over time, and that being exposed to foreign-accented English can actually be beneficial for the future.  This idea was reflected in comments such as: "It helps me to understand accents that I will probably be exposed to for the rest of my life" and "…you are trained in your listening and comprehension skills."

Finally, UGs' perceptions focused on personal characteristics of ITAs. Personal characteristics that were discussed were both positive (e.g., some indicated that ITAs were "smart," "knowledgeable," and "nice,") and negative (e.g., some indicated that ITAs were "rude" and "sexist").  A student who shared a problem with ITAs said, "My Math discussion class teacher was very quiet…"; others mentioned, "Often they have seemed less confident…",  "I …feel that ITA's don't care as much about the students…" and "Be confident".

Table 6

*Themes Developed from the Categories*

| Themes | Frequency (%) | Categories | Descriptions |
|---|---|---|---|
| Language | 93.5 | Language-General Don't Understand Me – Language Problem – Language TA-ITA – Language Advice – Speaking | Perceptions about the role of language in ITA taught classes. |
| Pedagogy | 50.4 | Pedagogical Difficulty – General Pedagogical Characteristics Problem – Pedagogy TA – ITA – Pedagogy Advice – Pedagogy | Perceptions about pedagogy in ITA taught classes. |
| Language-Pedagogy | 42 | Language-Pedagogy Problem – Language – Pedagogy | Perceptions about the connection between language and pedagogy in ITA taught classes. |
| Communication | 41.8 | Problem – Communication TA-ITA - Class Climate, Relatable, Culture Advice – Learn to Understand Students Advice – Make sure students Understand you Advice – Understand students may have difficulty with ITA | Perceptions about communication in ITA taught classes. |
| My Culture | 12.8 | Don't Understand Me - Culture Advice – Learn Culture | Perceptions about students' own culture in ITA taught classes |
| Personal | 43 | Personal Characteristics Problem – Personal TA-ITA - Personal Advice – Personal | Perceptions about ITAs' personal attributes. |
| Learn | 57.9 | Learn Culture – Language Learn Accent | Perceptions about learn about ITAs in ITA taught classes. |

**Stage 4: SMA Exploratory Meta-Themes Findings**

A principal component analysis was conducted to determine the number of factors underlying six of the seven themes. The language theme was excluded from the analysis because a majority of the students (94%) reported language to be a variable in their

interaction with ITAs.  As established in the literature review, language is a common perceived barrier in UG-ITA interaction, and the focus of this study was to go more in depth by identifying what other aspects of UG perceptions were meaningful.

This analysis yielded three factors or meta-themes: (a) Perceptions as People, (b) Perceptions as Education, and (c) Perceptions as Relational.  This three-factor solution is presented in Table 7.

Table 7

*Summary of Themes and Factor Pattern/Structure Coefficients from Principal Component Analysis (Varimax): Three-Factor Solution*

| Theme | Factor Coefficients | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| Personal | **.825** | -.163 | -.180 |
| My Culture | **.481** | .172 | .182 |
| Pedagogy | **-.353** | **-.779** | .018 |
| Learn | **-.419** | **.768** | .100 |
| Communication | .183 | .111 | **.736** |
| Language-Pedagogy | -.159 | -.043 | **.727** |
| % Variance Explained | 21.17 | 21.10 | 19.10 |

The themes *personal* and *my culture* loaded together creating the meta-theme Perceptions as People, which embodied the notion that UGs focused on personal characteristics as opposed to teaching and learning in their perceptions of ITAs.  In particular, the UGs focused on ITAs personal characteristics both positive and negative.  The focus was also on UGs perception of their own selves and their world, meaning how the UGs viewed

their own culture as the norm and conveyed the necessity for ITAs to conform to the UGs *American* culture. The second meta-theme, Perceptions as Education, included UGs focus on ITAs as teachers and themselves as learners about ITAs. However, the two themes (i.e., *pedagogy* and *learn*) were negatively related, indicating that UGs who experienced pedagogical difficulties with ITAs were less likely to view themselves as learning about ITAs. In other words, if students perceived that the difficulties that they faced in an ITA taught class was pedagogy related they tended not to perceive the class as a learning opportunity to learn about ITAs cultures and languages. Finally, the meta-theme of Perceptions as Relational encompassed the themes *language-pedagogy* and *communication,* which are characterized by interactions. First of all, the UGs explicitly established an interactional connection between ITAs linguistics abilities and their teaching abilities and then brought forth communication issues which are essentially comments about interactions between ITAs and UGs.

### Stage 5: SMA Confirmatory Analysis Findings

The canonical discriminant analysis, conducted to determine which of the themes predicted perceptions of ITAs by UG students from different colleges, revealed that the canonical function was statistically significant (F [168, 6.324E4]), p=.023; Canonical $R_{c1} =$ .265 (Cohen, 1988). Data pertaining to the canonical root are presented in Table 8. The standardized canonical function coefficients and structure matrix revealed that the meta-themes pedagogical characteristics and communication discriminated UG students' perception of ITA.

Table 8

*Discriminant Analysis: Function 1: Standardized Canonical Discriminant Function and Structure Matrix for Meta-themes Predicted Perceptions of ITAs by UG Students from Different Colleges*

| Variables | Standardized Coefficient | Structure Coefficient |
|---|---|---|
| Perceptions as People | .148 | .000 |
| Perceptions as Education | .878* | .845* |
| Perceptions as Relational | .536* | .482* |

*Note. *Coefficients with effect sizes larger than .3 (Lambert & Durand, 1975).*

However, as evident in Table 9, canonical discriminant functions evaluated at group (college) means did not discriminate UGs' perceptions of ITAs meaningfully among the colleges. That is, although the College of Applied Sciences and Arts and Pre-majors both had coefficients of effect sizes larger than 0.3 (Lambert & Durand, 1975), these findings did not provide any meaningful ways to understand group membership (i.e., college) based on UGs' perceptions of ITAs. Moreover, only 16.0% of the original and cross-validated grouped cases were correctly classified.

Table 9

*Function 1 at Group Centroids: Perceptions of ITAs by UG Students from Different Colleges*

| College | Function 1 |
|---|---|
| Agriculture | .058 |
| Applied Sciences and Arts | .359* |
| Business | -.209 |
| Education | .036 |
| Engineering | .212 |
| Liberal Art | -.108 |
| Mass Communication | .203 |
| Science | -.093 |
| Pre-Major | -.923* |

*Note. *Coefficients with effect sizes larger than .3 (Lambert & Durand, 1975).*

Thus, a canonical correlation was conducted to determine which variables, if any, were important in understanding UGs' perceptions of ITAs. The results from this exploratory analysis revealed a statistically significant relationship between the grouping variables and

the perception themes. However, within this multivariate relationship, the variable *Problem with ITA* demonstrated a large function and structure effect size.  Therefore, a canonical discriminant analysis was conducted to determine if the UGs' perception themes discriminated group membership in UGs indicating a problem or not a problem with courses taught by ITAs.

Although the results indicated that UGs' perceptions statistically significantly discriminated group membership, (Wilk's Lambda = *.700*, *df*( 6), p <.001), the significant function only accounted for 30% of the between group variability.  However, the cross-validated classification showed that overall 74% of the students were correctly classified.

Analysis of the standardized canonical discriminant function coefficients and structure matrix (Table 10) revealed that *Language-Pedagogy* and *Communication* were the two significant predictor themes.

Table 10

*Discriminant Analysis: Standardized Canonical Discriminant Function and Structure Matrix of Themes Predicting Perceptions of ITAs by Undergraduate Students who Had or Had Not Encountered Problems with ITAs*

| | Standardized Canonical Discriminant Function Coefficients | Structure Matrix |
|---|---|---|
| *Perception Theme* | | |
| Language-Pedagogy | **.89*** | **.91*** |
| Communication | **.33*** | **.39*** |
| Learn | .23 | .19 |
| My Culture | .11 | .12 |
| Pedagogy | .18 | .03 |
| Personal | .16 | -.01 |
| | Canonical Discriminant Function (Group Centroids) | |
| No Problem with ITA | -.74 | |
| Problem with ITA | .54 | |

As further demonstrated in the group centroids (and Figure 10), the function better discriminated students who did not indicate having a problem with ITAs than those who did, suggesting that students who did not indicate a problem in courses taught by ITAs, were less not very likely to articulate perceptions as relational (i.e., language-pedagogy and/or communication). However, the cross-validated classification showed that overall 74% of the students were correctly classified.



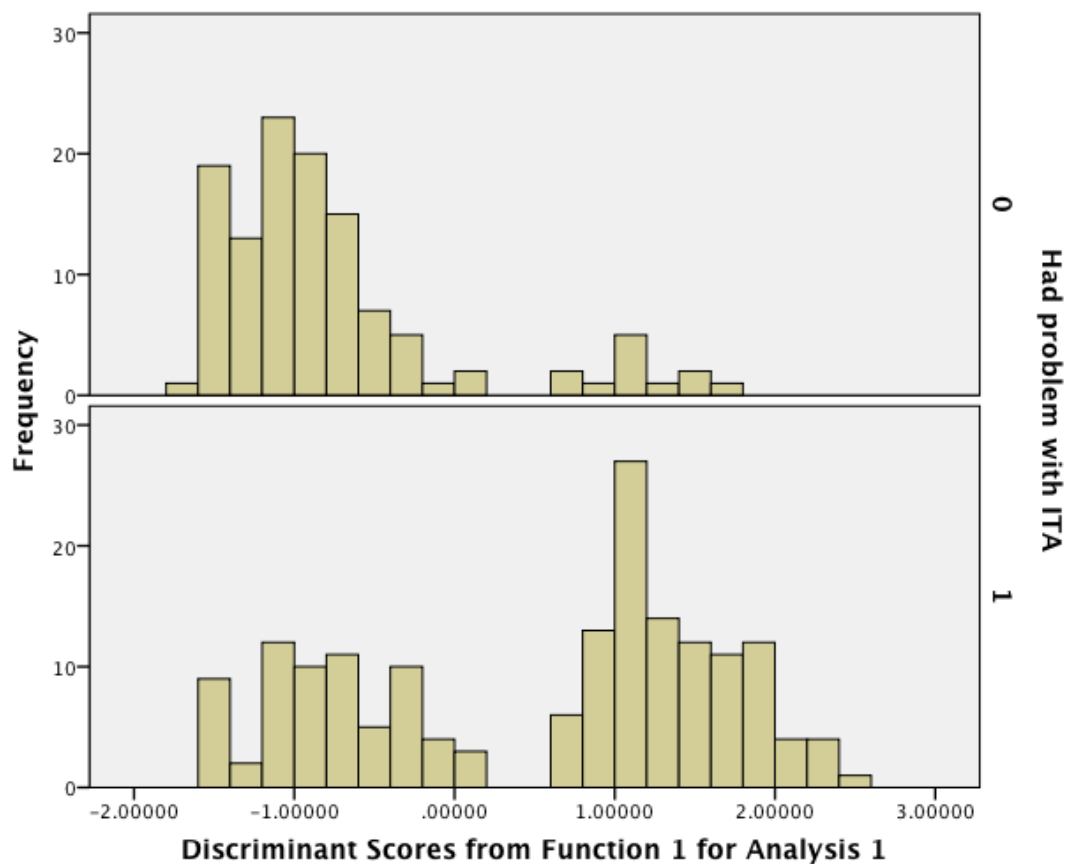*Figure 10.*Histogram of UG Students who Reported they Had or Had Not Encountered Problems with ITA.

# CHAPTER 5

## DISCUSSION AND CONCLUSION

This chapter will address the final four steps of the 13-step mixed research framework developed by Collins et al. (2006) – validating/legitimating the mixed research findings, interpreting the mixed research findings, writing the mixed research report and re-formulating the mixed research question followed by recommendation.

### Step 10: Validating/Legitimating the Mixed Research Findings

In validating and legitimizing the findings, it is important to consider the limitations. The sample of UGs in this study represented students from a single university.  Therefore, the generalizability of these findings to other undergraduates from other institutions, regions, and states cannot be known.  However, it is noteworthy that the study involved 436 students, which far exceeds the recommended sample size to determine statistical significance.

One possible threat to the internal validity of the study was the way the questions were framed in the survey.  The UGs did not have to make distinctions among their experiences with ITAs as none of the questions in the survey explicitly asked them whether and/or how their experiences with and perceptions of ITAs were connected to the discipline of the courses.  However, this design decision of not explicitly asking students to express their views on and experiences with ITAs in different subject matters in the survey questionnaire was taken intentionally.  It was thought that doing so could make the survey confusing and too lengthy.  In addition, with the original focus on perceptions and discipline, it seemed that the survey would be too leading.  Interestingly, even though none of the questions required them to make distinctions among ITAs from different disciplines of the 436 surveys collected, only five students chose to make a distinction among their experiences with ITAs in different subjects matter.  Relatedly, a trade off in keeping the survey a reasonable length was the notion of generalized (or perhaps overgeneralized) perceptions.

For example, if UGs reported multiple courses with ITAs, there was no way to discern if their perceptions were based on all of their experiences or a single experience.

Interpretive validity (i.e., the researchers' representations of the participants) raises the issue that the qualitative data could have been interpreted differently by different researchers, as well as the potential for researcher bias, during qualitative analysis (as I am an international graduate student with potential affinity towards ITAs). However, in recognizing these issues in my role as the researcher, substantial and multiple sources of evidence for interpretations were made possible by retaining the range of open-ended questions, which often inquired about the same topic from different perspectives. In addition, through the initial rounds of coding, my dissertation advisor served as an additional data analyst. Both of us coded a large number of surveys independently and compared our findings before coming to a consensus about the final list of categories, which significantly enhanced the credibility of the findings.

In considering these limitations, it is also important to consider the legitimation of findings within a mixed methods typology (Onwuegbuzie & Johnson, 2006). For example, using large and identical samples for both the qualitative and quantitative approaches improves sample integration legitimation. By integrating descriptive precision (i.e., obtained from the qualitative analyses) with empirical precision (i.e., obtained from the quantitative analyses) weakness minimization legitimation was facilitated. The paradigmatic mixing legitimation was maximized by using a fully mixed research design (Leech & Onwuegbuzie, 2009), as well as by undergoing all major steps of the mixed research process.

**Step 11: Interpreting the Mixed Research Findings**

This study offered a more holistic picture of UGs perceptions of ITAs by using the mixed method research. The goal of this study (Step 1), based on classification of goals of Newman, Ridenour, Newman, and DeMarcos (2003), was to have a personal and institutional

impact on ITAs. The findings of this study do indeed provide an in depth and unique understanding of UG students' perceptions of ITAs in relation to previous studies, which can have both personal and institutional implications.

First of all, Constantinides (1987) found that a disproportionately high number of introductory courses in mathematics and natural sciences were assigned to ITAs. The findings from this study indicate that UGs reported high numbers of courses in these areas, with 40.5% and 23.8% of the students who have had ITAs as instructors reporting that they have had Math and Chemistry courses respectively taught by ITAs. Similarly, the differences among students in colleges in the number of courses undergraduates report are instructed by ITAs is comparable to previous research (Fox, 1991; Plakans, 1997) with the College of Liberal Arts having the highest percentage of ITAs as reported by students followed by the College of Science, and the College of Agriculture as one of the colleges in which the lowest number of ITAs were reported by students.

UGs' perceptions of ITAs identified through the qualitative analysis are multi-faceted in nature. Frequency of six out of seven themes identified indicated that these perceptions were prevalent among the UGs. The finding that language has the highest frequency in terms of being addressed by students when it comes to perceiving ITAs is consistent with the findings of most existing studies on UGs perceptions of ITAs, which identified inadequate linguistic abilities of ITAs to be the primary reason for communication breakdown in ITA-UG interaction (Bresnahan & Kim, 1993; Hinofotis & Bailey, 1981; Tyler, Jefferie & Davies, 1988; Tyler, 1996).

The meta-theme of *Perceptions as Education* that was identified in this study is somewhat comparable to the results of some previous research (Bailey, 1984b; Rounds, 1987; Williams et al., 1987; Fox, 1991). Fox (1991), for example, found that teaching skills is an important contributor to ITA-related concerns where, not only UGs but other stakeholders

like course supervisors and native English speaking TAs emphasized such pedagogic issues as *repeating* and *providing examples from daily life*. The pedagogic ideas that the UGs in this study discussed also stressed issues relating to ITAs' ability to use teaching tools like blackboard effectively and providing supplementary materials in addition to class lecture. However, what sets the meta-theme apart from other findings in the literature reviewed so far is the notion that students who perceived pedagogy as a problematic area with ITAs tended not to view interaction with ITAs as a cultural, language and foreign English accent learning experience. In other words, pedagogical problems were a *turn off* for UGs to be open to the possibility that UG-ITA interaction could be an intercultural learning experience.

The meta- theme of *Perceptions as Relational* also appeared to have come up in many previous studies (Fox, 1991; Plakans, 1997; Bailey, 1984b). This notion, however, was framed quite differently in this study as it highlighted the UGs' perception of connecting/linking pedagogic difficulty as a consequence of linguistic limitations resulting in communication breakdown. Previous researchers seemed to have focused more on exploring UGs inclination to take personal responsibility in facilitating communication with ITA. The notion that communication is related to language-pedagogic issues gets at the reason behind UGs disinterest in facilitating communication.

The meta-theme of *Perceptions as People,* which embodied the notion that UGs focused on issues outside of teaching and learning in their perceptions of ITAs is reflected in previous research which typically offered *a priori* perceptions of ITAs from which UGs selected their perceptions about ITAs (Fox, 1991). But, this meta-theme expands this notion further by articulating what extra- pedagogical issues the UGs focus on when it comes to their perceptions of ITA. It puts forth the idea that personal characteristics of ITAs and UGs' selves and their world are crucial in their interaction with ITAs.

Thus, based on these findings, particularly, that UGs perceive an interactional connection between ITAs' linguistic and pedagogical skills, ITAs can better prepare for their classes by concentrating on improving both their linguistic and pedagogical abilities. The findings of this study also has institutional impact as it can potentially offer recommendations to ITA educators and UGs educators alike about what to expect and how to prepare both ITAs and UGs for ITA-UG interactions that are likely to occur throughout their academic years. For example, it sheds light on what exact topics or issues UG educators need to be aware of in designing the university core foundation courses that UGs typically take in their first years. The three meta-themes of Perceptions as People, Perceptions as Education and Perceptions as Relational could be potential topics around which the curriculum of both foundational UG and ITA education programs could be developed.

Secondly, researchers who found it worthwhile to explore if UGs students' perceptions of ITAs could differ according to academic discipline and/ or college found that it did differ. In Fox's (1991) study, for example, it was found that UGs from the School of Agriculture scored lower in Attitude about ITA (ATITA) than those of students from Schools of Sciences, Liberal Arts and Engineering. ATITA scores of UGs from School of Education were also significantly low than those of Science. The comparison between the mean ATITA score for students from Liberal Arts also showed a statistically significant difference. Plakans' (1997) study, too, revealed similar trends. Based on the ATITA composite score, UGs in Agriculture had the most negative attitude toward ITAs. Business students were also significantly different from the most positive group, the UGs from the College of Liberal Arts and Sciences. However, according to this study, the students' perceptions of ITAs, though statistically significant in terms of the colleges, was discriminated among Pre-majors and College of Applied Sciences & Arts and the rest of the colleges. In other words, the

discriminant analysis did not yield any meaningful discrimination when it came to analyzing students' perceptions of ITAs according to students' colleges.

Further analysis, however, revealed that depending on whether students had experienced problem with ITAs or not, the *Perception as Relational* meta-theme discriminated UG students' perceptions of ITA. That is, if a student reported to have had problem with ITA, the student tended to perceive that language barrier effected pedagogy causing communication breakdown. In other words, having problems with ITA inclined students to think deeply about why they were experiencing problem with ITA and consequently connecting language barrier to pedagogy and communication. The literature review suggested that previous researchers considered UGs having problem with ITA as a given and conducted their studies by either providing *a priori* perceptions of ITAs from which UGs selected their perceptions about ITAs or by investigating kinds of problems UGs had with ITAs, not exploring whether students indeed had or had not experienced problems with ITAs. Thus, the finding of this study suggests that UGs perceptions of ITA tend to be more meaningful, if it is on the basis of UGs' experience as opposed to which college the UGs are from.

This finding of the study thus fulfills its research objectives (Step 2) of exploring and describing UG students' perception of ITAs (Johnson & Christensen, 2008). In addition to describing UGs perceptions of ITAs, in terms of the seven themes (personal, my culture, pedagogy, learn, communication, language-pedagogy) and the meta-themes (perceptions as people, perceptions as education, perceptions as relational), the study demonstrates that UGs perceptions of ITAs tend not to depend on UGs college but on whether the UGs actually have had experienced problems with ITA or not.

The rationale for conducting a mixed research (Step 3) was significance enhancement (Collins, Onwuegbuzie & Sutton, 2006) and the purpose (Step 4) was complementarity

(Greene, Caracelli & Graham, 1989). These were ensured through the collection of both qualitative and quantitative data to secure richer data (Onwuegbuzie & Leech, 2004). Moreover, by integrating both qualitative and quantitative research techniques in an ongoing and interactive way at all stages of the study, namely, during research question and survey development, data collection, data analysis and interpretation, the study offered a more holistic approach in addressing the complex issue of UGs' perceptions of ITAs.

**Steps 12 and 13: Writing the Mixed Research Report/Re-formulating the Mixed Research Question**

This mixed research is being reported in this thesis fully (Step 12) and because of the recursive nature of mixed research has led to reformulating the research questions (Step 13). Since, the analysis yielded no meaningful relation between UGs perceptions of ITAs and the colleges of UGs but the relation was more telling between UGs perceptions of ITAs and whether UGs did or did not encounter problems with ITAs, the following questions could be addressed in the future: What kinds of problems do UGs encounter in ITA taught classes? What can be done in ITA education and UG education in improving UG-ITA interaction?

**Implications/Recommendations**

The current study thus confirms the need to focus on developing ITAs linguistic ability to improve ITA- UG interaction. However, since the UGs who have had problems with ITA explicitly related language to pedagogy, ITA educators need to focus on pedagogic development of ITAs as well. That is, in addition to screening ITAs solely on the basis of their language ability and providing only language development courses and workshops, ITA educators should equally focus on developing ITAs' pedagogic and communication abilities.

First of all, the screening procedure should be expanded to include pedagogic and communicative abilities of ITAs in addition to test their speaking skills and presentation skills. That is, the screening should test ITAs language abilities in relation to their

communicative and pedagogic abilities. According to the legislation and university policy of Orangetown University as stated on the Graduate Catalog and International Admissions web pages, the ITAs like all international graduate students are required to have a certain minimum score in standardized tests like TOEFL and IELTS to get admitted to the university.  Additional testing is then conducted by the second language acquisition center if an international graduate assistant is assigned teaching responsibility.  The purpose of this test is to assess ITA's oral proficiency. Although, there is no reference to assessing the teaching ability of the ITAs on the score sheet, members of the testing team often focus on teaching strategy (Ernst, 2008).  The university should revise its policy to integrate assessment of teaching abilities of ITAs with the assessment of their oral proficiency in a systematic and consistent manner.

Secondly, the ITA development courses or programs should also focus equally on linguistic, communicative and pedagogic skills of ITAs.  The graduate school at the Orangetown University typically holds a one-day orientation and sponsors a semester- long workshop and two-week intensive accent reduction class to support ITAs with their oral proficiency in their first semester (Ernst, 2008).  The graduate school should offer courses that are more integrated in helping ITAs develop both their oral and pedagogic skills.

Some departments in the Orangetown University supplement the graduate school ITA training program with in-house training (Ernst, 2008).  However, this study suggests that rather than having departmental or college level ITA training, a university wide ITA development program could prove more effective as long as the program places equal focus on oral proficiency and pedagogy.

Thirdly, since the UGs who have had problems with ITA tended to focus on communicative breakdown among UGs and ITAs, an effective step could be to involve UGs in the ITA development activities. The UGs could participate in workshops, and in programs

which pair up UGs and ITAs for casual conversation (Fox, 1991). Information about communicating with ITAs could also be provided into brochures for UGs and into freshman orientation programs (Abraham, et al., n.d.; vom Saal, n.d.).

Since, UGs are the most direct stakeholders when it comes to ITAs' performance, UGs could be involved in the assessment of ITAs as well. vom Saal (1987) suggests developing an instrument or technique for systematic assessment of ITAs by UGs a few weeks into the semester. This would enable the course supervisor to address any problematic situation early in the semester.

Finally, as the study finds that UGs perceptions are often based on non-pedagogical aspects of UG-ITA interaction, they need to explore intercultural issues more widely in the foundation courses that are requisite for all UGs. Many UGs voiced their positive perceptions of ITAs and openness and willingness to learn about other cultures. The UGs acknowledged the scholarship and learning opportunity in being by ITAs. By providing UGs the opportunity to learn about and address and share their views on intercultural issues in those foundation courses, UGs could also become better prepared to attend and make full utilization of classes taught by ITAs.

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**APPENDICES**

**APPENDIX A**

**UG Students and International Teaching Assistants**

**Background information**

1. College in which you are enrolled at SIUC:
Agricultural Sciences          ____
Applied Sciences and Arts          ____
Business          ____
Education and Human Services          ____
Engineering          ____
Liberal Arts          ____
Mass Communication and Media Arts          ____
Science          ____
Pre-major          ____

2. Year in School:
Freshman          ____
Sophomore          ____
Junior          ____
Senior          ____

3. Have you decided your major/ minor field of study?
Yes          ____
No          ____

If yes, what is your
major field of study
?_____
minor field of study
?_____

If no,  what are you considering as your
major field of study
?_____
minor field of study
?_____

4. Current cumulative grade point average (GPA):
3.5-4.0          ____
3.0-3.4          ____
2.5-2.9          ____
2.0-2.4          ____
Less than 2.0          ____

5. Age:
17-18          ____
19-20          ____
21-22          ____
23-24          ____
25 or older          ____

6. Gender:
Male          ____
Female          ____
Other          ____

7. Predominant ethnic/racial background:
American Indian or Alaskan Native          ____
African American          ____
Caucasian          ____
Asian American or Pacific Islander          ____
Hispanic or Spanish Surname          ____
Other          ____

8. How would you characterize the area you grew up most of your life?
Rural          ____
Urban          ____
Suburban          ____

9. Is English your first language?
Yes          ____
No          ____

10. What other language(s) do you speak fluently?
_____
_

**Experiences with International Teaching Assistants (ITAs)**

An ITA is typically an international graduate student who serves as the **instructor of a course, lab or a discussion section.** With TAs from all over the world, oftentimes English is not their native language; rather English is a second language.

11. Have you had a course in you believe which the instructor of a course, lab or discussion section was an ITA?
Yes          ____
No          ____

12. If yes, how did you know?(May choose more than 1)
Accent          ____
Clothing / Dress          ____
Appearance          ____
Other (please explain)          _____

**If yes, please continue. If no, please skip to the end and answer questions 19 - 20.**

13. Please identify all the courses you have taken in which the **instructor of the course, lab, or discussion section** was an **ITA** by checking the box for each course subject and then **noting how many courses you have taken in that subject** (with an ITA) next to it.

| College of Agricultural Sciences | College of Applied Sciences and Arts | College of Education and Human Services | College of Liberal Arts |
|---|---|---|---|
| □ Agribusiness Economics<br>□ Agriculture<br>□ Human Nutrition and Dietetics | □Architecture<br>□ Architectural Studies<br>□ Computer Science | □ Health Education<br>□ Kinesiology<br>□ Rehabilitation | □ Africana Studies<br>□ Anthropology<br>□ Art and Design<br>□ Classics<br>□ Criminology and Criminal Justice |
| **College of Engineering** | **College of Mass Communication and Media Arts** | **College of Science** | |
| □ Engineering | □ Cinema and Photography<br>□ Journalism<br>□ Mass Comm & Media Arts<br>□ Radio and Television<br>□ Speech Communication | □ Biology<br>□ Chemistry<br>□ Computer Science<br>□ Geology<br>□ Math<br>□ Microbiology<br>□ Physics<br>□ Physiology<br>□ Plant Biology<br>□ Zoology | □ East Asian Studies<br>□ Economics<br>□ English<br>□ Foreign Language<br>□ French<br>□ Geography<br>□ Geology and Environ. Resources<br>□ German<br>□ History<br>□ Linguistics<br>□ Music<br>□ Philosophy<br>□ Political Science<br>□ Psychology<br>□ Sociology<br>□ Theater<br>□ Women's Studies |

14. Please list any other courses you have taken, in which the **instructor of the course, lab, or discussion section** was an ITA.

_____
_____
_____
_____
_____
_____
_____
_____

15. What are the advantages and disadvantages in attending classes taught by ITAs?
Advantages_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
Disadvantages_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

16. Have you encountered any problems or difficulties in a class taught by ITA? Yes _____
No _____
If yes, please describe in detail and provide an example, if possible?
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

17. What, if any, are the differences between classes taught by ITAs and by English speaking TAs?
_____
_____
_____

_____
_____
_____
_____
_____
_____
_____
_____
_____

18. What, if any, are the differences between classes taught by ITAs and non-native English speaking professors?

_____
_____
_____
_____
_____
_____
_____
_____
_____

19. What advice would you give an ITA who will teach an UG class next semester?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

20. What do you find to be the most important characteristics of a college teacher?

_____
_____
_____
_____
_____
_____
_____
_____
_____

## APPENDIX B

## Survey Script

Hello, I'm Asma Khan, a doctoral student at the Department of Curriculum and Instruction. This survey is part of my dissertation, in which I am asking questions about how UG students perceive international teaching assistants.

As explained in the survey, international teaching assistants or ITAs are typically international graduate students who serve as the instructor of a course, lab or a discussion section. With teaching assistants from all over the world, oftentimes English is not their native language; rather English is a second language.

Your participation is completely voluntary and explained in detail in the cover letter. You don't have to answer any question you don't want to, and you can withdraw from participating in the survey at any time. The survey will take approximately 15-20 minutes to complete.

Do you have any questions?

# APPENDIX C

**List of Codes from First Round of Coding**

Smart
Difficult to understand
Cannot understand accent
Confusing
Explain
Break down material
Effort
Caring
Interact
Extra credit
Lecture notes
Love subject
Speak slow
Inspire
Nice
Upset
Teach myself because couldn't understand instructions
Poor language
Rules and regulations
Odor
Material was under explained because ITA had problem in English
American
Relate
Relationship
Review session
Teaching style
Incompetent
Pop culture
Colloquialism
Trust
American media
Behave
Shy
Enthusiasm
Intelligent
Learning

Passion
Interest
Open
Quiet
Well educated
Motivated
Point across
Thorough
Efficient
Charisma
Listen
Different perspective
Share information
Patience
Culture
Interfere
Enunciate
Speak clear
Communication
Comprehend
Diverse
Variety
Grade
Office hour
Repeat
Help/aid
Takes longer
Showing
Over compensate
Time
Knowledge
Dedicated
Answer questions
Respect
Attention
Focused
Frustrated
Unique experience

**APPENDIX D**

**Categories, Frequencies, Formulated Meanings and Selected Examples of Statements of**

**UG Students' Perceptions of ITAs**

| Categories | Frequencies % | Formulated meaning | Sample Statements |
|---|---|---|---|
| Language - General | 75.3 | Students found language of ITA hard to understand because of their accent, volume, pace etc. | *Hard to understand them. Speaks softly; Speaks fast* |
| Pedagogical Difficulty - General | 7.3 | Students commented about general pedagogical difficulties in ITA taught classes | *Teaching style can be difficult to follow.* |
| Language - Pedagogy | 23.4 | Students found it difficult to understand class materials and instruction because of ITA language. In other words, the students were more specific in identifying the result of difficulty in language | *I had to teach myself because I couldn't understand instructions. Sometimes it is hard for them [ITA] to get the classrooms' attention to start class or make them [students] stop talking because students have hard time understanding ITAs.* |
| Don't Understand Me - My Culture | 10.3 | Students believed that ITAs didn't understand students or their culture. The lack of understanding arose from non- language factors | *They [ITAs] don't understand how we do things here* |
| Don't Understand Me – Language | 7.3 | Students felt that ITAs didn't understand students language | *When they [ITAs] respond to questions I ask, it's clear they don't understand me, which is frustrating* |
| Learn Culture – Language | 56.1 | Students got to learn about other cultures and language of the world through interaction with ITA | *Learned a little about another culture They [ITA] share information about their home country We learned about other languages* |
| Learn Accent | 6.4 | Students got to learn to understand different accents of English through interaction with ITA | *Learned how to understand the accent after an amount of time* |

| Personal Characteristics | 26.0 | Students commented on ITAs personal characteristics | *Smart; Knowledgeable; Nice; Tries hard; Accessible; Dedicated; Helpful; Rude; Sexist* |
|---|---|---|---|
| Pedagogical Characteristics | 30.8 | Students commented on ITAs pedagogical characteristics | *Grades harder* |
| Problem – Pedagogical | 13.0 | Students' problem with ITAs was pedagogical | *My Math ITA stood directly in front of the chalkboard as she wrote examples, so we could not see, and I would have benefitted by reading her lips but her back was always to me.* |
| Problem – Personal | 4.8 | Students' problem with ITAs was personal | *In my Chemistry lab the ITA would get very frustrated if we asked questions and was rude at times.* |
| Problem – Language | 42.6 | Students' problem with ITAs was that they could not understand ITAs' speech | *ITA spoke too fast for me to understand* |
| Problem – Language-Pedagogy | 40.9 | Students' problem with ITAs was that they found it difficult to understand class materials and instruction because of ITA language. | *In Chemistry, we would do steps wrong because we didn't understand what needed to be done and the ITA couldn't explain. It would ultimately lower our grade for the experiment We had difficulty communicating with the ITA and as a result ¾ of our class failed* |
| Problem – Communication | 8.2 | Students' problem with ITAs was with communication; students believed that ITAs didn't understand students and their culture | *If I asked her [ITA] for help with a question, she didn't always understand what I needed even though I was being totally clear. The ITA has no idea what I'm saying when I ask him questions. It's like talking to a brick wall when I really need help.* |
| Problem – Not identified | 1 | Students' problem with ITAs was not identified | |
| TA- ITA – Language | 64.9 | Students compared ITAs with Native English speaking TAs in terms of | *It takes a little more work on the part of the student to understand what the [I]TA* |

| | | language | is saying. |
|---|---|---|---|
| TA – ITA - Class Climate, Relatable, Culture | 22.2 | Students compared ITAs with Native English speaking TAs in terms of class climate, classroom culture, relatability | *ITAs often do not relate to college aged interests.* *The teaching styles are completely different. I feel like the way the ITAs sometimes approach the class is sometimes more difficult because they haven't grown up here and aren't used to what we are used to compared to the normal TAs who grew up here.* |
| TA- ITA – Personal Characteristics | 9.0 | Students compared ITAs with Native English speaking TAs in terms of personal characteristics | *Not all ITAs are as smart as English TAs* *ITA-more formal, English [speaking TA]- more relaxed* |
| TA-ITA – Pedagogical Characteristics | 18.9 | Students compared ITAs with Native English speaking TAs in terms of pedagogical characteristics | *The differences are grading English speaking TAs tends to grade easier, and instructions are given much better than ITAs* |
| TA-ITA-Same | 4 | Students explicitly said that they saw no difference between Native English speaking TA and ITA | *They were the same* *I saw no difference* |
| Advice – Speaking | 49.7 | Students advice to ITAs was to improve their speaking abilities | *Enunciate; Speak slowly; Speak clearly; Speak loudly; Practice English; Practice speaking* |
| Advice – Learn to understand student | 6.5 | Students advice to ITAs was to learn to understand students | *Relate to the students* |
| Advice – Student understands you | 12.6 | Students advice to ITAs was to make sure students understand the ITA | *Try to make sure their [ITAs'] students understand what they're saying* *Ask if the students understand clearly* |
| Advice – Understand students may have difficulty with ITA | 6.5 | Students advice to ITAs was to understand that students may have difficulty understanding the ITA | *Try to realize that everyone might not understand them [ITAs]* *Don't get frustrated if people don't understand you [ITA]* |
| Advice – Pedagogy | 30.5 | Students advice to ITAs was about pedagogy | *Try to better breakdown the material if students have question, (teaching* |

| | | | *tips); write on board; use webs* |
|---|---|---|---|
| Advice - Personal | 27.8 | Students' advice to ITAs was on personal characteristics | *Don't be shy and show enthusiasm* |
| Advice – Learn Culture | 4.8 | Students' a to ITAs was to learn culture | *Familiarize yourself with American customs* |

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