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The Impact of Intercultural Training on the Satisfaction and Achievement of Undergraduates Taught by International Teaching Assistants

Kirsten Jensen

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THE IMPACT OF INTERCULTURAL TRAINING
ON THE SATISFACTION AND ACHIEVEMENT OF UNDERGRADUATES
TAUGHT BY INTERNATIONAL TEACHING ASSISTANTS

by

Kirsten Jensen
University of Queensland, Australia

A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

URBAN SERVICES

OLD DOMINION UNIVERSITY
August 2007

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ABSTRACT

THE IMPACT OF INTERCULTURAL TRAINING ON THE SATISFACTION AND ACHIEVEMENT OF UNDERGRADUATES TAUGHT BY INTERNATIONAL TEACHING ASSISTANTS

Kirsten Jensen
Old Dominion University, 2007
Director: Dr. Dana D. Burnett

Much has been done to prepare international teaching assistants to teach American undergraduates, but very little has been done to help the undergraduates learn effectively from instructors of different cultural and linguistic backgrounds. This research used a quasi-experimental, quantitative approach combined with a small ethnographic study to examine the impact of a short intercultural training activity on the satisfaction and achievement of freshman students in the fall Freshman Biology laboratory course at a large public university in Virginia. Satisfaction was measured by the responses of students on an end-of-course questionnaire, and achievement by their grades in the course. Audio interviews with individual students provided further information. The results of a MANOVA showed a small but statistically significant positive effect of the training on student satisfaction, despite the severe time constraints. However, further analysis using t-tests and ANOVAS produced nothing of significance and indicated that the first result was suspect, probably because of very unbalanced cells in the research design. Much useful information was gleaned from the training activity and from the ethnographic study. This research is only a first step in determining what can be done to prepare students to learn effectively from internationals and to see if some of the training activities widely used in the business world can be fruitfully applied in the university setting.
ACKNOWLEDGEMENTS

My sincere appreciation goes to my Chair, Dr. Dana D. Burnett, and the other members of my Dissertation Committee for their flexibility, support, and encouragement, especially when there were seemingly insoluble timing and coordination problems. I would especially like to thank Dr. Arthur L. Buikema, Jr. for embracing my research project so enthusiastically and making it possible for me to conduct it in the Department of Biological Sciences.

Special thanks also go to Ms. Mary Schaeffer, the Freshman Biology Laboratory Manager, and her technicians, who were always welcoming and helpful, and to all the graduate teaching assistants who willingly participated in various ways. It was very interesting and gratifying to meet and work with so many people outside my field, and it was particularly enjoyable to me personally to be able to talk with the freshmen subjects of this study. I really appreciate their fresh insights and contributions.

I am most grateful to my colleagues at the English Language Institute who have provided constant encouragement and have been a source of cheerful inspiration and strength to me over the course of this research. Likewise, Mac and my other dear friends and family scattered around the world have sustained me with their unwavering belief in me, their practical and moral support, and their boundless love. My heartfelt appreciation to you all--I could not have done it without you!
TABLE OF CONTENTS

ABSTRACT.............................................................................................................................ii
COPYRIGHT........................................................................................................................iii
ACKNOWLEDGEMENTS ................................................................................................iv
TABLE OF CONTENTS......................................................................................................v
LIST OF TABLES...............................................................................................................xii
LIST OF FIGURES............................................................................................................xiii

CHAPTER I: INTRODUCTION
Background to the Problem ............................................................................................1
Statement of the Problem .................................................................................................3
Research Questions .........................................................................................................7
Application to Urban Education .....................................................................................7
Significance of the Study ...............................................................................................9
Definition of Terms ......................................................................................................12

CHAPTER II: REVIEW OF THE LITERATURE
The Problem in Context ...............................................................................................15
Research Specifically on International Teaching Assistants ......................................20
International versus US Teaching Assistants in the College Setting........................25
Satisfaction of Undergraduate Students ..................................................................26
Academic Achievement of Undergraduate Students .................................................27
Approaches for Change Focusing on International Teaching Assistants .....................29
Recognition and Acknowledgment of the Real Two-part Problem............................35
Research Specifically on Undergraduate Students ......................................................39
    Attitudes of American undergraduates to ITAs..................................................41
    Accented Speech Research in Relation to Undergraduate Students...................48
Why Changes in the Attitudes and Skills of Undergraduate Students are Vital ..........50
Approaches for Change Focusing on Undergraduate Students ....................................52
    The traditional approach .....................................................................................52
    Negative advice. .................................................................................................53
    Use of undergraduates to assess teaching assistants .........................................53
    Cultural awareness .............................................................................................55
    Tangle of competing yet intertwined issues ......................................................55
    Increased exposure, shared activities, buddies and language partners ................57
    Empathy development .......................................................................................58
    Prejudice reduction ............................................................................................59
    Intercultural communication skills .................................................................60
    Intercultural training .........................................................................................64
    Intercultural training in educational settings ....................................................65
    Developing critical thinking skills .....................................................................66
    Positive self-esteem ..........................................................................................66
    Curiosity .............................................................................................................67
    Listening skills for World English .....................................................................70
CHAPTER III: METHODOLOGY

Introduction to Research Method .......................................................... 87

Participants ......................................................................................... 88

Measure of Undergraduate Students: Prior to Treatment .................... 93

Demographic Survey. ........................................................................... 93

Measures of Undergraduate Students: After Treatment ......................... 95

Course evaluation. ............................................................................... 95

Grades in biology laboratory course ................................................... 96

Individual interviews. ......................................................................... 97

Measures of Laboratory Instructors: Prior to Treatment ....................... 97

Demographic survey. ......................................................................... 97
CHAPTER IV: RESULTS

Introduction ............................................................................................................................110

Demographics ......................................................................................................... 110

Freshmen.......................................................................................................................110

Laboratory instructors ...............................................................................................112

Training...........................................................................................................................112

Questions .......................................................................................................................112

Scoring...........................................................................................................................113

Non-verbals ...................................................................................................................113

Debriefing ......................................................................................................................114

Timing and play .............................................................................................................115

Not talking .....................................................................................................................115

Tournament round # 1..................................................................................................117

Tournament round # 2..................................................................................................118
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tournament round # 3</td>
<td>121</td>
</tr>
<tr>
<td>Instructors</td>
<td>122</td>
</tr>
<tr>
<td>Feelings</td>
<td>122</td>
</tr>
<tr>
<td>Summary</td>
<td>123</td>
</tr>
<tr>
<td>Feedback from Laboratory Instructors</td>
<td>124</td>
</tr>
<tr>
<td>General Organization of Quantitative Data</td>
<td>126</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>127</td>
</tr>
<tr>
<td>Achievement</td>
<td>128</td>
</tr>
<tr>
<td>Multivariate Analysis</td>
<td>129</td>
</tr>
<tr>
<td>T-tests</td>
<td>132</td>
</tr>
<tr>
<td>Analyses of Variance</td>
<td>137</td>
</tr>
<tr>
<td>Ethnographic Study</td>
<td>141</td>
</tr>
<tr>
<td>Demographic background</td>
<td>141</td>
</tr>
<tr>
<td>Schedule</td>
<td>143</td>
</tr>
<tr>
<td>Course and materials</td>
<td>143</td>
</tr>
<tr>
<td>Laboratory groups</td>
<td>146</td>
</tr>
<tr>
<td>Advice for freshmen</td>
<td>147</td>
</tr>
<tr>
<td>Teaching assistants in general</td>
<td>148</td>
</tr>
<tr>
<td>International teaching assistants</td>
<td>150</td>
</tr>
<tr>
<td>The first week of classes</td>
<td>156</td>
</tr>
<tr>
<td>Guest activity</td>
<td>157</td>
</tr>
<tr>
<td>Overview</td>
<td>159</td>
</tr>
</tbody>
</table>
## CHAPTER V: DISCUSSION

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Interpretation of Findings</td>
<td>161</td>
</tr>
<tr>
<td>Demographics</td>
<td>161</td>
</tr>
<tr>
<td>Freshmen</td>
<td>161</td>
</tr>
<tr>
<td>Laboratory instructors</td>
<td>162</td>
</tr>
<tr>
<td>Training</td>
<td>163</td>
</tr>
<tr>
<td>Simulation</td>
<td>163</td>
</tr>
<tr>
<td>Reflections</td>
<td>165</td>
</tr>
<tr>
<td>Analogies</td>
<td>166</td>
</tr>
<tr>
<td>Strategies and applications</td>
<td>168</td>
</tr>
<tr>
<td>Observations</td>
<td>171</td>
</tr>
<tr>
<td>Satisfaction of Freshmen</td>
<td>174</td>
</tr>
<tr>
<td>Achievement of Freshmen</td>
<td>175</td>
</tr>
<tr>
<td>Ethnographic Study</td>
<td>176</td>
</tr>
<tr>
<td>Implications of Findings</td>
<td>177</td>
</tr>
<tr>
<td>Course and materials</td>
<td>177</td>
</tr>
<tr>
<td>Laboratory instructors</td>
<td>178</td>
</tr>
<tr>
<td>Limitations</td>
<td>179</td>
</tr>
<tr>
<td>Suggestions for Future Research</td>
<td>181</td>
</tr>
<tr>
<td>Conclusion</td>
<td>182</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>184</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>201</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1. Summary of numbers of undergraduates by gender in fall, 2006 90
Table 2. Summary of ethnicity of students in fall, 2006 90
Table 3. Number and percentage of freshmen in each type of biology laboratory course 91
Table 4. Numerical grade ranges for letter grades in Freshman Biology 97
Table 5. Numerical values assigned to letter grades 128
Table 6. 95% confidence intervals of pairwise differences in mean satisfaction of TA-taught classes 139
Table 7. 95% confidence intervals of pairwise differences in mean achievement of TA-taught classes 141
**LIST OF FIGURES**

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1.</td>
<td>Bennett’s model of development of intercultural sensitivity (1993).</td>
<td>62</td>
</tr>
<tr>
<td>Figure 2.</td>
<td>Perry’s cycle of curiosity (2001).</td>
<td>68</td>
</tr>
<tr>
<td>Figure 3.</td>
<td>Kolb’s model of experiential learning (1984).</td>
<td>79</td>
</tr>
<tr>
<td>Figure 4.</td>
<td>Research design.</td>
<td>87</td>
</tr>
<tr>
<td>Figure 5.</td>
<td>Sketch drawn by an undergraduate during the <em>Barnga</em> tournament.</td>
<td>117</td>
</tr>
<tr>
<td>Figure 6.</td>
<td>Number of classes in initial groups.</td>
<td>126</td>
</tr>
<tr>
<td>Figure 7.</td>
<td>Percentage probability plot to test normal distribution of standardized grades.</td>
<td>129</td>
</tr>
<tr>
<td>Figure 8.</td>
<td>Means of the dependent variables, satisfaction and achievement.</td>
<td>130</td>
</tr>
<tr>
<td>Figure 9.</td>
<td>Means and standard deviations for the different groups.</td>
<td>131</td>
</tr>
<tr>
<td>Figure 10.</td>
<td>Partial results of the MANOVA.</td>
<td>132</td>
</tr>
<tr>
<td>Figure 11.</td>
<td>Independent samples t-test for means of satisfaction.</td>
<td>134</td>
</tr>
<tr>
<td>Figure 12.</td>
<td>Error bars for satisfaction for treated and untreated groups</td>
<td>135</td>
</tr>
<tr>
<td>Figure 13.</td>
<td>Independent samples t-test for means of achievement</td>
<td>136</td>
</tr>
<tr>
<td>Figure 14.</td>
<td>Error bars for achievement for treated and untreated groups.</td>
<td>137</td>
</tr>
<tr>
<td>Figure 15.</td>
<td>ANOVA for satisfaction of TA-taught classes.</td>
<td>138</td>
</tr>
<tr>
<td>Figure 16.</td>
<td>ANOVA for achievement of TA-taught classes.</td>
<td>140</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

All good people agree,
And all good people say,
All nice people like us, are We
And everyone else is They:
But if you cross over the sea,
Instead of over the way,
You may end by (think of it!) looking on We
As only a sort of They!

Rudyard Kipling
“We and They,” 1926.

Background to the Problem

The face of graduate education in the United States has changed, and an advanced degree is no longer the prerogative of well-off, privileged, young white males on an escalator ride to their chosen professions. Now, more than 20% of graduate students come from overseas to study at American universities and colleges, according to the November, 2005 Open Doors Report of the Institute of International Education. Add that figure to the increasing proportion of minority students of every type in the total college student population—African American, Hispanic, women, mature-age students, physically disabled, ex-service-men, and so on—and it’s clear that increasing diversity will perhaps be the only constant in the graduate student body of the future. Has academia responded effectively and sufficiently to these changes? What is being done to meet this ever-growing challenge? Are students, professors, administrators, and staff acquiring the skills they need to function optimally in a community of great diversity? What can and should be done to prepare people to learn well and work together in a spirit of mutual enrichment.
and cooperation instead of divisiveness? An intersection or convergence of two different constituencies within a university provides a good starting point to examine this issue more closely.

The number of international graduate students at American universities has increased dramatically in the last 35 years, particularly in the fields of science, economics, and engineering (Borjas, 2000; Snyder, Hoffman & Geddes, 1996). Despite the dip caused by detailed security checks and more stringent visa requirements following the events of September 11, 2001, the overall numbers have remained high. Figures released by the Institute of International Education on November 14, 2005, show that the decline in total international student enrollment following 2001 has slowed, and the total number of international students at US institutions (more than 565,000) is now only about 1% less than the former highest figure. In fact, the major finding of the 2005 Graduate Admissions Survey conducted by the Council of Graduate Schools and released in early November, 2005, was that first-time international graduate enrollment figures had increased in the fall of 2005 for the first time since 2001.

Most of these students come directly from overseas, especially from Asia, for temporary stays, for the express purpose of attending graduate school and possibly obtaining some work experience in the US after graduation. Although the number of international first-degree seekers in colleges in the US has also increased, though more slowly, there has been a simultaneous jump in the diversity of undergraduates, particularly in urban areas, partly as a result of affirmative action programs. The ever-increasing diversity on college campuses reflects the changing multicultural demographics of American society as a whole. This is not only influenced by differing
birth rates among different ethnic groups already here, but also by continued immigration, especially from developing countries. This, it must be emphasized, is in addition to the influx of short-term international students, visiting faculty, and researchers.

Statement of the Problem

The problem this study examines is what can be done to improve the satisfaction and achievement of undergraduates taught by international teaching assistants.

One of the main ways to train graduate students to become junior faculty members is through a teaching assistantship, which simultaneously provides experience as a teacher, as well as financial assistance during graduate study. The teaching assistantship has a long history in American universities and is often viewed as a kind of apprenticeship for the profession of college teaching (Andrews, 1985; Marincovich, Prostko, & Stout, 1998; Nowlis, Clark, & Rock, 1968). As the proportion of native speakers of English in the ranks of graduate students has declined, more and more international students have been asked to become instructors for undergraduate courses. In this study, international teaching assistant (ITA) is used to mean a graduate teaching assistant from another country who is not a native-speaker of English, whereas teaching assistant (TA) designates a long-term US resident and native-speaker of English.

In the 1970s, ITAs, just like their United States counterparts, were given no preparation or help in teaching classes, and there was very little in the way of mentoring or guidance. By the 1980s, there were many complaints from American students, parents, and other tax payers about the quality of instruction provided by some ITAs and TAs.
with the attention being mostly focused on the perceived inability of the internationals to speak standard American English. This was widely called the foreign TA problem (Bailey, 1984) and will be discussed in more detail in the next chapter of this study.

Universities and colleges across the nation responded in many different ways to these complaints about the quality of instruction. In some places, the outcry resulted in the hasty establishment of centers, if none already existed, to improve teaching generally, including that of already tenured faculty members. Today, there is a huge variety of such centers, and they differ greatly in quality, type and length of help offered, as well as general usefulness. In most, asking for assistance or efforts to improve teaching by faculty members is on a purely voluntary basis, and many of those who really need to improve their teaching, do not seek help at all or avail themselves of the opportunities provided. There are many resources available, and there is a large body of literature on effective college teaching, such as books by Centra (1985), and Seldin (1995), as well as specialized journals. However, there is a certain amount of inertia and resistance among the professoriate. Some professors claim they do not see the need for such centers and believe that those who can research or publish in their field can also teach effectively. In other words, it's mainly the better teachers and those concerned with teaching as a professorial activity distinct from research, who utilize these centers, and the overall level of instruction to students hasn't really changed very much.

In other universities, already established centers for teaching-learning added pedagogy classes or programs specifically for TAs. In some instances, TA training programs are run by a general division of graduate education; and others are housed in and are specific to a particular department or graduate school within a university.
Programs run the gamut from a one- or two-day set of lectures to semester- and year-long highly structured, multi-component courses that involve effective supervision, mentoring, and feedback for the new teachers in much the same way as high school teachers are trained. These may or may not have strictly enforced exit criteria, so that a graduate student is properly prepared and reaches a certain standard as a teaching assistant before taking sole responsibility for a class.

Much the same is done for ITAs on many campuses, with added English requirements and instruction, especially pronunciation and intonation practice. Sometimes, all the new or prospective TAs do some kind of training program together, and then the international graduate students alone have to fulfill further requirements. As well as English language classes, there may be sessions on cultural differences, classroom climate, or American teaching styles. Programs or components specific to the training of ITAs will be discussed further in the next chapter.

In the years since the controversy about graduate teaching assistants peaked, much has been written about improving the quality of instruction provided by faculty and teaching assistants in general (Nyquist, Abbott, & Wulff, 1989), and of international teaching assistants in particular (Inglis, 1993; Yule & Hoffman, 1990), but so far very little has appeared about the other side of the teaching-learning equation—the undergraduate students themselves (Plakans, 1997; Sarkisian, 2000). In addition, so far, little account has been taken of undergraduates’ difficulties in learning from novice teachers, certainly a different experience for most of them from being taught by their high school teachers, the majority of whom would have been trained, licensed, and often experienced as well. Moreover, many undergraduates have had little or no experience
with internationals and are likely to have many preconceptions and prejudices. Most have not traveled abroad, or if they have, it will have been for a short time, or to places such as Canada or the Caribbean. Many have little or no experience with those outside their own ethnic groups and may have no experience whatsoever as a linguistic or cultural minority. In addition, many undergraduates have little or no practical ability in a modern foreign language, possibly in spite of years of study. Thus, difficulty with understanding different pronunciation or intonation of English is frequently perceived as overall incomprehension. In 1997, Lippi-Green stated:

While the university recognizes its responsibility in screening and training non-native speakers of English who will be given teaching responsibilities, there is no parallel recognition of the need to educate undergraduates to discern between real communicative difficulties and those stemming not from language, but from stereotype and bias. (p. 126)

It’s clear then, that as the nature of the student body has changed, so too, must there be changes in the ways in which current graduate students are trained to become faculty members and in the ways in which undergraduates are prepared to learn from increasingly diversified and international teaching staff (Nyquist, Abbott, Wulff, & Sprague, 1991). All of the efforts to improve the quality of instruction offered to undergraduates are laudable. However, the question posed at the beginning of this discussion remains: Has academia responded effectively and sufficiently to the demographic changes that are occurring? With an ever-sharpening focus on learner-centered higher education, (Barr & Tagg, 1995), it is a very appropriate time to examine more specifically what can be done to help undergraduates to be more successful in the current, increasingly international, learning environment and the globalized,
interconnected world of tomorrow. Within the increasingly diversified teaching-learning context described above, this study addresses the following research questions:

**Research Questions**

1. **How does intercultural sensitization training of undergraduates impact their satisfaction and achievement in a course taught by international versus non-international teaching assistants?**

2. **Is there a difference in satisfaction and achievement, if the teaching assistant does the training with the undergraduates?**

   In addition, to give some insights and perhaps illuminate other results of the investigation, it is interesting to hear first-hand from participants in the study themselves, in a more personal way than just from the collection and analysis of quantitative data. Therefore, the following research question will also be addressed:

3. **How do some undergraduates describe their first-semester experience with international teaching assistants?**

**Application to Urban Education**

Diversity in the workplace and diversity issues at all levels of education, health, and public affairs are receiving more and more attention, as it becomes painfully obvious that many people lack the ability to interact successfully and respectfully with those of different cultural backgrounds. Because of high-speed, affordable travel and electronic communications, the *global village* is already a reality; yet the very skills needed most to
be successful in international and culturally diverse environments are the ones most people have not yet developed.

A study such as this that analyzes the effects of training designed to improve understanding between culturally different groups, has direct application to urban and higher education, and indeed, to education in general. Throughout the United States, increasing diversity and internationalization are apparent everywhere, but especially so in urban areas and in large cities, which are the arrival point for most newcomers. Because of the concentration of visitors and immigrants in urban areas, an understanding of diversity and skills to deal with it effectively were made a cornerstone of the Doctoral program in Urban Services at Old Dominion University. In particular, changes in demographics and technology have dictated the ever-increasing importance of diversity issues in the field of urban education.

The same is true of university and college campuses across the country, even if they are not physically located in an urban area, for they function to all intents and purposes, like small urban centers with very diverse populations. In fact, at many universities, cultural diversity and internationalization are publicly lauded and loudly proclaimed and promoted at all levels of administration and policymaking. At some universities, campus diversity training actually already exists, and at others, activities which encourage mixing of racial and other groups are fostered. On most campuses, however, the worthy goals and sometimes vague policies are not always translated into applications and programs or activities that deal with the nitty-gritty and actual practical skills training that is needed to help people interact more effectively and respectfully with those who are culturally different from themselves.
It may be just a matter of time before appropriate funding is allocated for the practical realization of true cultural plurality on university campuses, or it may be that policymakers and administrators don’t realize what is possible in a practical sense and what actually needs to be done to move towards achieving their carefully articulated ideals. Investment in campus diversity training would pay great dividends, for graduates would be well-prepared to face real-life diversity issues in the workplace. Perhaps the core of the problem for university administrators may be that they are unaware of the young, but increasingly international and professional field of *intercultural communication training*.

Although this study will deal specifically with the effects of intercultural training of undergraduates in a university setting, the outcomes are directly applicable to urban education in general, for the same principles hold true in any community with cultural diversity. An added justification for this applicability is that the undergraduates of today will be the graduate students, TAs, professors, teachers, parents, and urban dwellers of tomorrow—that is, both consumers and directors of urban education in the future.

*Significance of the Study*

Ever-increasing diversity in the workplace demands employees who are culturally sensitive and effective team members. Conflict resolution skills and enhanced communication skills are required attributes of a successful employee, yet most such training takes place after employment begins and often only in response to problems or new initiatives into foreign countries. How much more effective it would be if such training were done earlier, and if intercultural training were seen as a vital and important
part of the general education necessary for today’s global society. A meta analysis conducted in 1992 by Deshpande and Viswesvaran concluded that “cross-cultural training has a strong and positive impact on cross-cultural skills development, cross-cultural adaptability, and job performance of individuals” (p. 306). Black and Mendenhall (1990) also had similar results in their meta analysis of 29 training programs. Unfortunately, such training is so far mostly neglected outside the business world, despite its wide relevance and applicability.

In response to some of the complaints made about the language abilities of international teaching assistants, M. F. Welsh said in 1986 in *The Chronicle of Higher Education*: “We should train our undergraduates to deal with international TAs,” but very little has actually been done in this area since then, and the focus has been on training the ITAs themselves to improve their linguistic abilities, cultural understanding, or pedagogical skills. In other words, the onus has been on those on one side of the teaching-learning equation without regard to the other half.

Effective teaching and learning can be seen as a type of two-way communication. For learning to be optimal, the learners need to be receptive and willing, able to withhold quick negative judgments, and flexible and tolerant enough to adapt to different teaching styles and a variety of English accents. For the reasons outlined above, it is becoming increasingly important for undergraduates to be literate in the intercultural communication sense, and to tolerate and respect differences in the cultural and linguistic backgrounds of their instructors; that is, to see these as enrichments rather than as impediments to their learning.
In fact, Donald L. Rubin, a speech communication and language and literacy education professor from the University of Georgia, who supervises training program for ITAs and has done research on barriers to comprehension, expressed the problem succinctly and pointed to a solution as recently as 2005:

International instructors constitute a campus-wide resource. Any problems in teaching and learning that arise from international instructors require a campus-wide effort. Support for ITAs (and also continuing support for non-native English speaking faculty members) is key, and much progress has been made in many fine programs on that score. But also key is attention to undergraduates’ listening abilities. Very few—if any—programs exist to support undergraduates as listeners of World Englishes. Improvements in intercultural teaching and learning—crucial for participation in the global community of knowledge and commerce—cannot be achieved by addressing only one half of the problem. (Rubin, concluding statement, in Gravois & Rubin, 2005)

As a practical interdisciplinary endeavor and investment in the future, it is worth investigating whether some of the techniques of training personnel for workplace diversity and international business assignments, or for training teachers and ITAs themselves could be applied to those who populate most American college classrooms, i.e., undergraduates. Specifically, could a very short training program intended to enhance the global perspective, tolerance, and cultural sensitivity of personnel for international business assignments and workplace diversity be applied successfully to the college classroom?

The significance of this study therefore lies in the fact that it explores an area to which very little attention has so far been paid—the preparation of undergraduates to learn more effectively from those of different cultural and linguistic backgrounds from themselves. It will assess the impact of improving intercultural understanding by the undergraduate students in a frequently occurring teaching-learning situation in the current university context. Specifically, it will investigate whether minimal intercultural training...
(because of time constraints) has an impact on satisfaction and learning outcomes in a
large first-year science course and point the way to further practical applications of
techniques from the business field to higher education.

Definition of Terms
1) culture—the total way of life that a group of people shares at any given place and time
2) (cultural) diversity—the state of many different cultural groups existing and often
   overlapping, in close proximity
3) multicultural—composed of many different cultures; often used in the USA context to
   mean inclusion and domestic racial diversity rather than the larger, more global,
   international type of diversity
4) cross-cultural—crossing over to another culture or taking on the norms and attributes
   of the members of another culture
5) intercultural—having mutual understanding, respect, and willingness to adjust or the
   ability to switch as necessary, but without losing one’s own cultural identity
   Note: In much of the literature, cross-cultural and intercultural are used interchangeably,
   though more recently, the latter is the preferred term.
6) accent—the breakthrough or interference of native language sounds, that is, vowels and
   consonants, into another language, in this study, into English
   Note: In common parlance and in much of the literature, accent seems more often to
   refer to the stress and intonation patterns of the native language that are carried over into
   English, rather than just to the actual sounds. It seems that frequently the technical
   meanings of pronunciation and accent are actually reversed.

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7) *pronunciation*—the way in which a language is spoken, including paralinguistic or extralinguistic features such as rate, tone, intonation, and stress patterns

8) *adjustment*—the process of changing psychologically to achieve a feeling of harmony between the individual and the environment (Kelley & Meyers, 1993)

9) *adaptation*—a longer-term process than adjustment, that involves not only “psychological well-being but also cognitive changes, which include a new frame of reference or paradigm shift; social changes, which include interaction with the host culture; and attitudinal change, toward feeling at home in the new culture” (Kelley & Meyers, p. 5).

**TA**—teaching assistant in general, sometimes called a **GTA**—graduate teaching assistant, a graduate student who has part-time teaching/grading responsibilities as a junior instructor; also specifically in this study a graduate teaching assistant who is a native English speaker

**ITA**—international teaching assistant, i.e., a teaching assistant who is not a native speaker of English, also called a *foreign teaching assistant, a non-native speaking TA (NNSTA)*

**NES**—native English speaker

**NNES**—non-native English speaker

**ESL**—English as a Second Language

**EFL**—English as a Foreign Language (used in most countries)

**TESOL**—Teachers of English to Speakers of Other Languages--a global education association and world wide professional organization for ESL and EFL teachers

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**TOEFL**—Test of English as a Foreign Language - a standardized test of English language ability in the areas of listening, reading, and writing, used widely as a criterion for college admission for international students to US universities. It does not measure oral or communicative competence. Educational Testing Service, which administers this test, is currently phasing in an Internet-based TOEFL (iBT) worldwide, which includes a tough speaking component.

**SPEAK**—Test of Spoken English--widely used on college campuses to assess the verbal linguistic ability of international graduate students.

**GPA**—Grade Point Average

**GRE**—Graduate Record Examination

**SIETAR**—Society for Intercultural Education, Training, and Research--formerly an international group, but now a global network of country or region-based organizations.

**SPOI**—Student Perception of Instruction--the end-of-semester evaluation of course and instructor at the university where the study was conducted

**CF**—Caucasian female

**CM**—Caucasian male

**NCF**—Non-Caucasian female

**NCM**—Non-Caucasian male

**IF**—International female

**IM**—International male.
CHAPTER II

REVIEW OF THE LITERATURE

The Problem in Context

All over the United States, universities are becoming more and more diverse. Not only is there much greater international movement of faculty for long and short term teaching or research assignments, and of students for both undergraduate and graduate study, but there is also diversification of workers, staff, and administrators, as immigrant groups and traditionally underrepresented minorities move into the mainstream. In particular, there has been a steady increase in the numbers of international graduate students in the last 35 years, and many believe this trend will continue, especially in fields such as math, science, economics, information technology, and engineering (Aslanbeigui & Montecinos, 1998; Borjas, 2000; Kaplan, 1989; Nelson, 1990; Smith, Byrd, Nelson, Barrett, & Constantinides, 1992; Twale, Shannon, & Moore, 1997).

When most graduate students were still native speakers of English, up to the 1970s, there seems to have been little concern by their institutions for the quality of teaching they provided to undergraduate students. Consequently, although teaching is an exceedingly complex and difficult task (Seldin & Associates, 1995), most graduate students were thrust into teaching situations quite unprepared and were left to struggle as best they could. Some were basically used as cheap labor to free professors from the time-consuming demands of teaching and grading large undergraduate courses, and to allow them to focus on their own research and publications, necessary for promotions and tenure.
A few graduate assistants would have had access to one of the earliest publications in the field, a monograph published by the American Council on Education, *The graduate student as teacher* (Nowlis, Clark, & Rock, 1968). Although this book was published nearly 40 years ago, it is historically interesting to note that problems in the use of graduate students as teaching assistants (TAs) were already of great concern. It seems that the morale of TAs was generally very low; they received little or no training or mentoring; their status was vague and varied considerably; they received minimal evaluation or feedback except in the form of complaints from undergraduate students or their parents; there were sometimes conflicts between their teaching duties and their own research and study; and nobody seemed to care about helping them become effective teachers. [It sounds strangely familiar!] This report stems from a two-day conference on graduate student teaching held at the University of Rochester in June, 1967. The participants were approximately 35 academic deans from a variety of disciplines and institutions. They brought experiences from their own institutions, but they also discussed several other program descriptions (provided as handouts and given as appendices in the book). After agreeing on four distinct possible roles of TAs, they then worked out and approved a set of ten basic principles for effective student teaching programs. There is no mention of international teaching assistants (ITAs) whatsoever, so it's clear and relevant that largely unaddressed problems with TAs pre-dated the widespread use of ITAs.

A few more fortunate graduate students, who just happened to find a caring professor with an interest in developing new talent, were mentored and guided to become faculty members in a real 'apprentice-master' kind of relationship (Andrews, 1985). It is amusing to note Andrews' rather memorable statement in his Editor's Notes: "The role of
teaching assistant (TA) is one of the most creative inventions in the history of higher education, dealing at a single stroke with a number of important problems.” (p. 1). It is particularly ironic in the light of subsequent developments that the role of teaching assistants was seen by this author as solving several important problems for the established faculty!

Other fledgling teachers received varying degrees of mentoring and feedback from older, more experienced faculty, but little was done in a large-scale, systematic way to help the TAs develop and grow into their roles as junior faculty members (Marincovich, Prostko, & Stout, 1998). That had to wait until the use of non-native speakers of English as teaching assistants became widespread, with the resulting loud and vociferous complaints from undergraduates and their parents, which were gleefully reported in the popular press, campus newspapers, and other publications.

It seems that the speech of international TAs became the locus of complaints by undergraduates in the 1980s, whether or not that was actually the real problem. Perceived foreignness and accented speech seemed to arouse negative emotions, discomfort, and increased feelings of ethnocentrism in undergraduates, who then said they could not learn because they were being taught by ITAs and not by native English-speaking professors. This was all blamed on the accent or language ability of the ITAs and was reported in many newspapers, such as The New York Times (Fiske, 1985) and the Chronicle of Higher Education (Heller, 1985; McMillen, 1986).

Once undergraduate students grumbled to parents about their difficulties understanding their ITAs; parents complained to university administrators and legislators, as they were paying high tuition fees and felt their children should be taught by proper
university professors; and other righteous citizens and taxpayers also added their disgruntled voices. K. M. Bailey in "The foreign TA problem" (1984), gives an excellent background summary of the situation from the different perspectives of those involved: university administrators and faculty; undergraduate students, their parents, and taxpayers; and the ITAs themselves. She also discusses various parameters and surrounding issues and notes that the situation had not changed much in the preceding ten years. The historical background is interesting, but as it is already 20 years old, it's rather outdated. However, it is a frequently cited article in a frequently cited collection of articles, edited by Bailey herself and two others. The whole collection is divided into three sections: 1) The Problem, 2) The Programs, and 3) The Progress. Although several authors mention the mismatch of students’ and ITAs’ expectations and assumptions and that unsuccessful communication involves both sides in the interaction, the focus is on training the ITAs to be more effective teachers, and especially on ways to improve their classroom English skills and confidence.

Others scholarly articles appeared, such as “Rethinking the ‘foreign TA problem’” (Fisher, 1985); and “Boon or bane: Foreign graduate students in US engineering programs” (Barber & Morgan, 1988). In dealing with the so-called problem of foreign teaching assistants, the graduate students from abroad were sometimes also referred to as non-native speakers of English, whether this was actually true or not. Although the term foreign teaching assistant may be technically more correct, the more common International Teaching Assistant (ITA) is used in this study.

In large research universities in the 1980s, the proportion of non-native speakers of English in science and engineering fields at the graduate level was increasing steadily
(Kulik, 1985; Vom Saal, Miles, & McGraw, 1988), so naturally, as the numbers of American graduate students dropped (Smith, et al., 1992), international students were tapped to grade, supervise laboratory work, and teach small sections of large undergraduate courses. Consequently, by the mid-1980s, undergraduate classroom tension was rife, and even today there are still occasional voices raised in protest and complaint about perceived language difficulties and the use of ITAs in university classrooms. In the title of an article in *The Chronicle of Higher Education* in April, 2005, John Gravois asks the question, “Teach impediment: When the student can’t understand the instructor, who is to blame?” This is a good indication that the problem has not satisfactorily been resolved despite the many excellent training, screening, and language programs that have been established since the 1980s to help international teaching assistants become more effective instructors. In fact, in 1997, Lippi-Green said clearly, “There is a strong resistance in the US to teachers with foreign accents, and nowhere is that resistance so loudly voiced as in the university setting” (p. 124). She continues her discussion of the issue of international graduate teaching assistants by saying it “has become one of the most contentious ones on large campuses. Emotions on the matter of graduate student instructors in the classroom sometimes run very high” (p. 124).

It has always been difficult for graduate students to balance teaching/grading/research activities they are assigned in return for financial support with their own needs as students, their own coursework demands, and their own research (Slevin, 1992). All these factors are compounded when the TA is not a native speaker of English and has a cultural and educational background quite different from most of the undergraduates being taught. Not only are there pedagogical and linguistic difficulties, but cultural
assumptions, expectations, and behavior may be quite different, puzzling, or disconcerting for both sides, because, as Lippi-Green says, "the underlying issues are complicated by the power and authority structures of any university setting" (1997, p. 126). Consequently, this also involves emotional reactions, which, in turn, can affect cognition and the abilities to teach and learn effectively (Yook & Albert, 1999). This important aspect of teaching-learning in culturally diverse contexts will be discussed in more detail later in this review.

The cry for action to remedy the problems with international teaching assistants seemed to focus almost exclusively on language problems and on how different the undergraduate students perceived the ITAs' language to be from what they were used to and what was familiar to them. In other words, the focus was on perceived foreignness, on how far the ITAs' English language use and classroom behavior seemed to differ from the US norm.

Research Specifically on International Teaching Assistants

Although complaints about the English language ability of ITAs centered on pronunciation, intonation, and foreign accent (Hoekje & Williams, 1992; Kaplan, 1989, Nelson, 1990; Williams, 1992), other factors were at play. For example, Orth (1982) found that the perceptions undergraduate students had of the pronunciation of their ITAs were related to their grade expectations and their attitudes toward the course.

Other research centered on less obvious characteristics of language. The speech of native speakers contains sub-conscious devices that orient the listener to the relative importance of the ideas being presented and facilitate the construction of a coherent
interpretation of the message. This framework is the discourse structure, and, quite logically, it differs from language to language. Failure by language learners to use the appropriate information structuring cues, in both lexicon and syntax, makes their discourse more difficult to follow.

In 1992, Andrea Tyler of the University of Florida did a qualitative discourse analysis of two short lecture texts in English, one produced by a native speaker of Chinese and the other by a native speaker of English. Both were then presented in English by another native speaker to an audience of 15 native-speakers of US English. As is often the case with ITAs, the absence of appropriate markers made the lecture by the Chinese more difficult to follow for native speakers of English, as the anticipated cues were absent, even though what he presented was actually quite logical and sequential. Thus differences in discourse structure can add to perceptions of incoherence in ITAs’ speech. The author suggests that ITAs be taught to use more explicit discourse markers to overcome some of the incomprehensibility caused by other factors such as accent or pronunciation. She asserts, “This is an area of strategic competence that can be taught and may have an immediate effect on undergraduates’ comprehension” (p. 707). Moreover, because the Chinese speaker had scored at a level on the SPEAK test “very close to the level to be allowed to teach,” yet still produced a lecture that was difficult to follow, Tyler extrapolates the following conclusion. “The present findings suggest that general language proficiency tests, such as the SPEAK test, are likely to be inadequate as the sole assessment for determining the readiness of a nonnative speaker to provide comprehensible academic discourse” (p. 727). This is a gross generalization based on an
extremely limited sample and data analysis, but it did point to the need for further study of ITAs' classroom discourse.

Like the article by Tyler, a paper by Williams (1992) investigates discourse marking in relation to the English comprehensibility of ITAs. In planned speech production by ITAs, discourse markers were more likely to be clear and explicit than in unplanned speech. Syntactical and other errors were only slightly different between the planned and unplanned speech.

Not only did researchers find deficiencies in overt characteristics of spoken English, such as pronunciation, intonation, and the use of discourse markers, but they also found subtler negative influences on classroom communication, such as the choice of inappropriate tone (Pickering, 2001). In addition, they found some ITAs to be ill-prepared in terms of pedagogical skills, knowledge of US classroom behavior, and sometimes quite unrealistic in their expectations. Many of them were from cultures where classroom behavior is much more formal, and teachers are highly respected and never questioned or criticized. Their attitudes towards women and minorities may be very different from those of American TAs (Graham, 1992), and all these differences have to be recognized and addressed to help the ITAs adjust to their new roles. Other difficulties they face, such as their high stress levels, undermining of confidence, and communication anxiety have also been investigated (Keye, 1981; Roach & Olaniran, 2001). Further compounding the situation was the nervousness expected of anyone in a new situation, particularly teaching in a foreign language, and especially when one has never experienced the same situation first-hand.
To investigate the views of international teaching assistants themselves, Ross and Krider (1992) conducted interviews to determine the common themes of their teaching experiences, concluding that pedagogical and intercultural difficulties were the main areas of concern. In addition, they found that ITAs were greatly surprised by the amount of verbal interaction in US college classrooms (p. 284) and were also shocked by the American undergraduates’ “lack of knowledge about geography and world events” as well as their inability to process information in the classroom and their overall “inferiority” and lack of readiness for college study (p. 285). Similar findings have been reported by Sarkodie-Mensah (1991).

The perceptions of various university stakeholders, such as administrators, department chairs, supervisors, and teaching assistants, whether native English-speaking or not, were elicited in selective sampling interviews by Fox and Gay (1994), following earlier research by Fox (1992). Fox had developed the Questionnaire about International Teaching Assistants (QUITA) and collected data from 540 undergraduates concerning their experiences with ITAs and their attitudes towards them. This was then analyzed along with demographic data to reveal divergent viewpoints by the different stakeholders, with the undergraduates perceiving more difficulties with the ITAs than any others, including the ITAs themselves.

Yule & Hoffman (1990), on the other hand, analyzed the performance of 233 ITAs at Louisiana State University over a two-year period and attempted to predict which students would eventually receive positive or negative recommendations to be assigned teaching duties. This assignment was done after the ITAs completed a one-semester, 3-credit training program. The report doesn’t analyze successful teaching by ITAs as the
title might suggest, but rather whether they will be successfully assigned to teaching or not. It examines TOEFL and Graduate Record Exam (GRE) scores at the time of application to the university as predictors of successful assignment to teaching and also investigates prediction of subsequent Grade Point Averages (GPAs). Students not recommended for teaching duties were found to have (on average) significantly lower TOEFL and GRE scores than those who were recommended. This suggests raising the required TOEFL and GRE verbal score requirements to actually teach, though whether this should be pre-admission or after a semester of acculturation and the ITA training course is not discussed. Those receiving positive recommendations also had higher GPAs during the first year of graduate study, but by 18 months, the differences were no longer significant. Thus it seems that TOEFL and GRE scores are not good predictors of academic success beyond the first year, nor should these be the sole criteria for the assignment of teaching duties. The authors conclude their paper with an important statement:

If U.S. universities intend to continue recruiting the brightest and best of the world’s international graduate students to support university teaching and research missions, they should plan to provide more extended periods of adjustment and ESL training for a substantial proportion of those students. (pp. 240-241)

However, contrary to what they had just said, the focus is again placed on English language training along with the very vague recommendation for longer periods of adjustment, without mention of any specifics.
International versus US Teaching Assistants in the College Setting

In an effort to look more closely at what was really going on in classes taught by ITAs compared with those taught by TAs, Jacobs and Friedman (1988) studied the performance of undergraduate students measured by results in common departmental final exams at a university in the Mid-west. They found no statistically significant differences. Neves and Sanyal reported in 1991 that although most undergraduates preferred teaching assistants whose native language was English, they viewed their ITAs in a positive way as knowledgeable and very familiar with the subject matter they were teaching. They also found ITAs empathetic, friendly, respectful, and quite ready to interact with them. Fleisher, Hashimoto, and Weinberg conducted a study at Ohio State University (2002) and found that students in economics courses taught by ITAs were less likely to drop the course and had a slightly higher mean grade than those taught by native speakers of English.

A conflicting result had previously been obtained at a major research university by Borjas (2000), who concluded that his data suggested ITAs “have an adverse impact on the class performance of undergraduate students” (p. 355), although he did warn that it was important to stress the limitations of his study. He conducted a survey of students in the second year of economics courses about their experiences during their first two required semester-long courses in economics. The fact that students were recalling experiences up to a year prior to the gathering of data, and that only those who continued to a second year of economics were surveyed, would lead to dubious results. It also appears that the students reported their own grades, GPAs, and whether their TA was foreign-born or not, and it seems that this data was not independently verified, but was
taken at face value. This definitely would make the data highly suspect, so the results of any analysis are questionable. The most interesting point in Borjas' highly publicized report, however, is that he later clarified that the negative impact was only on the achievement of US-born undergraduates and not on the 25% or so of his sample who had been born outside the US (358). This may suggest that experience abroad, having a different cultural background, or speaking another language could help lessen perceived difficulties with international ITAs.

**Satisfaction of Undergraduate Students**

Although there are many ways to measure the satisfaction of students with their professors and courses and the teaching effectiveness of college faculty (e.g., Centra, 1993), this has traditionally and most commonly been assessed in the US by means of simple questionnaires completed by all students towards the end of a semester. These short instruments typically gather student perceptions of professors and their courses, and then anonymous feedback is given to the professor concerned. Ratings may or may not be used for promotion or other decisions, depending on the department and the college policies. There is a vast literature on measures of teaching skills and perceptions of classroom effectiveness (Marsh, 1984 and 1987; Smith & Cranton, 1992), with many examples of student rating instruments and discussion of their reliability and validity (Baldwin & Blattner, 2003; Centra, 1993). For the purposes of this study, it was decided to use the regular end-of-semester rating instrument used at the institution where the investigation would take place. Although student responses can indicate the perceived quality of instruction and the degree of satisfaction with the professor and the course, the
ultimate measure of teaching effectiveness, however, is surely the students’ learning, according to the clearly articulated objectives of the course.

If students perceive the instructors, course materials, and course delivery methods to be satisfactory, they are more likely to have a positive attitude toward the subject and to achieve better results. This is intimately tied up with their emotional receptivity as investigated by Yook (1999) and Yook and Albert (1999). In addition, it has been established that negative emotions are likely to have a negative effect on cognitive learning (Yook, 1996), so if satisfaction is low, attitude will be poor, and learning and hence end-of-course grades are likely to be lower.

Academic Achievement of Undergraduate Students

Contrary to the widely-held perception that international teaching assistants impeded the academic performance of undergraduates because of language barriers and reinforced in studies such as that by Borjas, 2000, discussed above, Norris (1991) found that, in fact, sections taught by nonnative English-speaking TAs had statistically significant higher GPAs. This study was conducted over five semesters at the University of Wisconsin-Madison, and involved “806 course-sections deriving from 18 different academic departments” (p. 438). The very breadth of the study is both its strength and weakness. Because of the different types of courses, there was a large number of variables in the analysis, such as different course and instructor-characteristics. It was necessary to control for as many of these as possible, but some data were not available, such as “comparable and complete information about TA instructional and language capability” (p. 436). Also, student aptitude data such as SAT scores were not accessible,
and there was no account taken of whether students had been in classes taught by ITAs before, or were in their freshman or later years.

Nevertheless, the overall findings showed that undergraduate students performed better when taught by experienced rather than inexperienced TAs of both types, and that students taught by ITAs had slightly higher grades, regardless of the ITAs’ region of origin, or the subject matter being taught. Norris concludes that “the level of English deficiency attributable to these TAs [ITAs] is not as profound as widely perceived” (p. 444). He also offers another plausible explanation for his findings, which were different from those of most previous studies, that of a difference in human capital. He says:

Foreign TAs may be more committed and more motivated than their native English-speaking counterparts who have not chosen and prepared to face the difficulties of graduate education in a foreign culture. This additional motivation may more than compensate for any language deficiencies. (p. 444)

In addition to the aspects mentioned above, it should be noted that student satisfaction and achievement in any particular course do not necessarily equate to better learning and are also dependent on other factors such as background knowledge of the academic subject, prior life experiences, motivation, flexibility, and maturity (Pike, 1991).

Although it was embarrassing and disconcerting for ITAs to be singled out as not being effective teachers in articles which addressed the problem in a general way, this also paradoxically had a positive effect in that it focused attention on the standard and quality of teaching at universities in the more general sense, which ultimately led to improved training programs for all teaching assistants and the widespread availability of help and resource centers for all teaching faculty (Austin, 2002). However, it’s important to survey what has been done specifically to train ITAs, as they have very special and rather complex needs.
Approaches for Change Focusing on International Teaching Assistants

The publicity over poor teaching by international teaching assistants “led to 20 state legislatures mandating oral English proficiency between 1982 and 1992” (Twale, et al., 1997, p. 62; see also Hoekje & Williams, 1992, and Thomas & Monoson, 1993), which really shows only a limited understanding of the actual situation. However, this seemed to satisfy many of the most vocal complainers, for it meant universities had to provide programs to train foreign instructors to reach the level of English proficiency required to perform their classroom duties effectively. This in turn has led directly to much more systematic training of TAs in general, with particular attention being given to the training of ITAs, and there is much debate on how best to train and mentor these junior faculty members. However, those designing and conducting the ITA training programs are not necessarily basing them on sound research regarding all dimensions of teaching effectiveness, but more on the weaknesses in English ability of the ITAs as perceived by the undergraduate students being taught. More often than not, these perceptions are highly colored by the undergraduate students’ experience with internationals (or lack thereof), their own poorly developed intercultural communication skills (Erwin & Coleman, 1998), and their lack of exposure and unwillingness to adapt to the concept of World English as distinct from the more familiar Standard American English (Pae, 2001). Consequently, the focus of many programs is still on improving the English language ability of the international teaching assistants, especially on accent reduction and intonation.

There is indeed a large body of literature reporting on, describing, and analyzing training programs for ITAs that have been implemented at universities and colleges.
across the US. These vary tremendously in scope and effectiveness from short one- or two-day seminar or lecture programs to comprehensive, long-term programs which include lots of practical classroom experience, effective feedback, and mentoring, as well as ongoing linguistic components if needed. Many programs address three different strands of competency: English language skills, American cultural norms and classroom behavior, and pedagogical skills.

Rice suggested a model program as early as 1979, and Andrews (1985) gave specific suggestions for setting up various types of teaching assistant training modules and information on different assessments, as well as progress reports from several institutions. Ross and Krider (1992) went further to state “departments must go beyond merely developing technical teaching orientation programs for ITAs and develop means through which issues of cultural awareness and intercultural differences can be addressed” (p. 291).

Specialist articles (e.g., Lowman & Mathie, 1993) and books have appeared, such as Communicate: Strategies for international teaching assistants, by Smith, Meyers, & Burkhalter (1992). This text would be an excellent selection for an ITA training program, as it covers teaching skills, language skills, and cultural awareness. The authors suggest that it be used in conjunction with videotaping of practice-teaching sessions and one-on-one analysis of those videotapes. It even has sample syllabi, feedback forms, and a test, which could be used as an exit exam, as well as a good bibliography, and immediately useable, field-specific materials for 15 different fields. As well as being practical and helpful for ITAs themselves, Communicate would be an invaluable aid and resource for those charged with developing ITA training programs.
There are surveys of programs (Bauer & Tanner, 1994; Smith, Byrd, et al., 1992), as well as collections of articles and readings related to the training of ITAs. (See Briggs, Clark et al., 1997, for an annotated bibliography.) In the 1989 collection of articles on teaching assistant training edited by Nyquist, Abbott, and Wulff, there are only two chapters specifically on ITA training programs. The first, by Janet C. Constantinides, describes the growth in the number of ITA programs and categorizes them into four types. Although the author acknowledges that the quality of programs had also improved, she cites appropriate staffing as the key issue in the success of these increasingly complex endeavors. The second chapter, by Sequeira and Constantino, identifies “significant issues in ITA training programs” and suggests directions for addressing some of them (p. 79). One other interesting issue raised in this book and discussed only in relation to teaching in general in Chapter 3 by Nancy VanNote Chism is that of ITAs teaching minority undergraduates, a common occurrence today.

A much larger, more comprehensive collection of articles on TA training (1991) by the same editors has an additional editor, J. Sprague, and developed out of the Second National Conference on the Training and Employment of Teaching Assistants. This was held in Seattle, Washington, in November, 1989, and is an indication that the need to systematically train and develop future professors had been widely recognized. The selected readings constitute a rich and meaty collection with 56 pages (8 chapters) devoted to diversity in higher education, and 112 pages (14 chapters) to ITAs. This is a huge jump from the previous volume mentioned, perhaps an indication of just how pressing the issue of TA training had become.

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In this book, the benefits of including undergraduates and supervising faculty in ITA training programs are discussed, as are the special needs of ITAs teaching in laboratories in several different disciplines. Question-asking skills are reviewed in detail, as is the issue of oral communication skills. Three chapters deal with legislation and policy regarding the assessment of ITAs' oral skills, including the results of a survey of the laws and policies in each of the 50 states, and the bases of legal challenges to such assessments. The last four chapters discuss research studies of ITAs, including their attitudes to various assessments of their oral skills and the relationship between standardized ESL test scores and performance in ITA training programs. This book provides a substantial full-course meal, so it is easy to understand why it is often cited in the subsequent literature.

In 1993, a complete issue of the journal, Innovative Higher Education, guest edited by K. S. Smith, was devoted to the training of graduate teaching assistants, and in 1998, another influential compendium appeared. This was the very thorough and comprehensive collection of articles by some of the leaders in the field of faculty development in general and of TA preparation in particular entitled, The professional development of graduate teaching assistants (Marincovich et al., 1998). This provides a clear framework for implementing and assessing training programs for both TAs and ITAs and deals with various responsibilities, difficulties, and concerns in developing or improving such programs. It is a very useful background reader and handbook for those involved in preparing and mentoring all TAs.

Two chapters are of particular interest: “TA Training: Strategies for Responding to Diversity in the Classroom” by M. L. Ouellett and M. D. Sorcinelli, and “International
TA Training and Beyond: Out of the Program and Into the Classroom” by Ellen Sarkisian and Virginia Maurer. The first of these advocates increasing awareness and responsiveness to diversity and inclusion issues, though this is really subsumed by the wider category of intercultural communication skills and respect for students (and teachers) as individuals. The second chapter concentrates on what is widely regarded as a central issue in ITA training--interactive teaching skills.

The discussion of interactive teaching focuses on three suggested and effective strategies: involving undergraduates in the training process, training within academic departments and courses, and ongoing training, feedback, and assessment during the semester. It seems that more and more colleges are using undergraduates in various ways: as the audience in microteaching sessions, as evaluators and givers of immediate feedback, and as language partners, cultural informants, and buddies. A good example of the last is the successful, highly structured program at Michigan State University, but such partnerships do not necessarily have to be structured to be successful. It seems that the use of undergraduates in ITA training programs has only positive benefits for both sides, and it should be encouraged as much as possible.

Before exploring the topic of undergraduate students further, one other publication should be mentioned, for its appearance points to a strong trend and potential area of future concern, an obvious outgrowth of large numbers of international teaching assistants: increasing numbers of international faculty. Teaching American students: A guide for international faculty and teaching assistants in colleges and universities (2000) was written by Ellen Sarkisian of the Derek Bok Center for Teaching and Learning at Harvard University and first published in 1990. This slim handbook gives clear, concise,
practical tips for foreign faculty and ITAs, [and all university teachers!] on topics such as giving presentations, leading discussions, and understanding meaning beyond words, e.g., through body language, eye contact, voice, etc. It has a good section on assumptions that affect teaching in the American classroom, helpful appendices on preparing for the first day of class, and suggested assignments for discussion sections. There are several checklists for different topics, such as giving lectures, grading problem sets, and grading papers, as well as good lists of references on teaching, teacher training, culture, and improving English skills. It is definitely user-friendly, not at all overwhelming, and the kind of resource that could profitably be placed into the hands of all new teaching faculty members.

Thus, special training for international teaching assistants has been implemented at many schools across the US, and the topic is still of interest to researchers. Handbooks, tips, and guides of various kinds are provided at most universities for their ITAs, e.g., Case Western Reserve, University of California at Berkley, University of Michigan, etc., yet the bulk of advice and suggestions for enhancing ITAs’ teaching effectiveness focuses on various factors and characteristics of the graduate students themselves, including their accents and mannerisms. One interesting addition to this is material, such as the section in the GTA Handbook of Ball State University entitled, “Multicultural competence in teaching: A guide for graduate and teaching assistants” (Littleford, 2004). This deals directly with an issue mentioned in the introduction to this study, namely increasing diversity in the undergraduate classroom and the skills needed to handle that diversity respectfully and effectively.
An emerging trend is that of requiring some type of teaching certification for graduate students. This is already done in some universities as an internal departmental or institution-wide certification program. Two fairly recent conference presentations (2004 and 2005) by a leading advocate, Gabriele Bauer, herself originally a high school teacher, indicate widespread interest.

This shows that the controversy over the standard of teaching provided by both TAs and ITAs soon may have run its course, although there are still some complaints about incomprehensibility of ITAs. Sometimes, legislators rally to the cause, such as in North Dakota, where one such controversy received a lot of publicity (Gravois, 2005). It turned out that North Dakota State University, the focus of the complaints, could perhaps be doing more to help train and mentor its ITAs; but also, as the university’s provost, R. Craig Schnell, put it, “I think North Dakota’s fairly provincial, and if you sound in any way different, that’s a point of contention” (Quoted in Gravois, 2005, p. A10). Thus, in spite of a great deal of progress, the focus of concern in most institutions of higher education is still currently on the teaching side of the teaching-learning equation, but that may now be shifting to the other side to focus on the role of the learners.

**Recognition and Acknowledgment of the Real Two-part Problem**

A few authors rightly believe that effective classroom interaction, that is, teaching and learning, is akin to two-way communication, and that part of the problem of less than optimal learning and dissatisfaction with ITAs lies with American undergraduates themselves (Pae, 2001; Plakans, 1997; Rubin & Smith, 1990; Sarkisian, 2000; Sarkodie-Mensah, 1991; Vom Saal, 1987; Welsh, 1986; Yule & Hoffman, 1993). This has been
recognized for quite a long time, but very little has been done about it in any kind of widespread or systematic way.

As early as 1985, in a book chapter, “Rethinking the ‘Foreign TA Problem’” (Andrews, pp. 63-73), Michele Fisher spoke of the need for a long-term solutions and a reconceptualization of the problem. Fisher went so far as to say, “Institutions may also want to prepare the undergraduates whom the foreign TAs will be trying to teach” (p. 71) and cites earlier unpublished (1982) as well as published work (1984) by Bailey in support of this. She continues, “This is an area that institutions have not explored very much. It may well be the slow route to the kind of changes necessary, but it does deserve attention” (p. 71). It’s now nearly 20 years since Fisher’s comments were written, but it is only in the last few years that any attention has been paid to the path Fisher suggested, a path later reiterated by Nagesh Rao in four papers derived from his dissertation at Michigan State University and presented at various conferences on the Oh No! syndrome between 1993 and 1995. Rao’s catchy title neatly summed up the reaction of many undergraduates to seeing a seemingly foreign teaching assistant on their first day in class. This negative reaction then colored their attitudes and affected all aspects of classroom interaction. Many students would just choose to flee sections taught by ITAs if they could, and feelings of negativity were passed from one undergraduate to another, even clouding the expectations of incoming students. Rao explained the syndrome (1993a) and suggested practical ways of overcoming it, so that attitudes could move from Oh No! to OK (1993b). However, there was really very little change, leading to his recent comment, “It is good to hear from you and know that you are doing this very important work. Like
you, I am disappointed that not much was done after my dissertation.” (N. Rao, personal communication, Feb 22, 2006)

In 1997, Barbara Plakans examined undergraduates’ attitudes towards ITAs at a large mid-western university. She used an adaptation of the Questionnaire about International Teaching Assistants (QUITA) developed by Fox in 1992 to collect information from undergraduates on their experiences with ITAs, how they dealt with problems, and their attitudes towards ITAs. Focus group interviews were also conducted with a sub-set of respondents, who shared their experiences and opinions related to ITAs. The findings strongly suggested “that universities still have the job of broadening insular students’ horizons and helping them to become cross-culturally aware” (p. 113). The author “recommends intervention strategies with undergraduates who are likely to encounter ITAs” (p. 95), that is, specific tips and techniques undergraduates can use to make their learning with ITAs optimal. Indeed, such tips and strategies are now appearing as suggestions on the websites of some universities, e.g., Iowa State.

Plakans also quotes a senior political science major, who obviously showed a good grasp of the real situation during a focus group session:

I think we are placing too much of an emphasis on making these TAs conform to American ways. I'm not expecting an ITA to give up their culture just because they're here. I think we have a lot to learn just having an ITA as an instructor. There isn’t much chance that you are going to go out into the business world and everyone you run into is an American. I think in a lot of cases we are being too inflexible and that bothers me... Americans are just so egocentric we don’t want to allow other people to be what they are. (p. 113)

Likewise, Julie Damron of Purdue University used focus groups in 2000 to examine the beliefs of undergraduate students about their role in communication with their ITAs. She found that “students are so displeased with their international teaching
assistants that they prefer to drop out of the class instead of trying to communicate with an international teacher” and “students made it clear that it was not their job to put extra effort into communicating with an ITA and were generally unwilling to do so” (pp. viii-ix). Lippi-Green also summed up the problem neatly in her discussion of the issue and mentions how only one half of the problem [the ITAs] is being addressed.

“Undergraduates have stereotypes and biases which, if not put aside, interfere with a potentially positive and valuable learning opportunity” (1997, p. 125).

Later on in her discussion, Lippi-Green continues:

In addition to the training of the foreign students [ITAs], it must be noted that our own students have to be educated about matters of language and communication in the classroom, and be taught to take a reasonable amount of responsibility for a successful educational experience. (p. 130)

Similarly, in his article on the teaching assistant intelligibility controversy in North Dakota (2005), John Gravois asked pointedly:

The question is, do such academic breakdowns happen because universities aren’t doing enough to prepare international teaching assistants for the classroom, or because American undergraduates, the beleaguered consumers themselves, simply tune out when faced with someone who is sufficiently different from them? (p. A10)

Furthermore, during The Chronicle of Higher Education on line discussion held on April 7, 2005, Soonhyang Kim, a graduate student at Ohio State University, had this to say about raising the awareness of undergraduate students: “It’s not an easy task and takes time to help them to be aware of their communication responsibility because they are traditionally and historically not educated to be patient and open-minded to differences” (Gravois & Rubin, 2005). Another participant described undergraduates even more bluntly as using “language as an excuse for laziness and unfounded cultural xenophobia” (Chris, comment posted on line, Gravois & Rubin, 2005). As the population
of interest in this study is undergraduate students, it is therefore important to investigate further what is known about this particular group in a general way.

*Research Specifically on Undergraduate Students*

As already mentioned, the student body is becoming more and more diverse; yet despite this, most undergraduates have just left high school and are living away from home for the first time. It must be stressed that their values, attitudes and beliefs are still largely those of their parents and the environment in which they were raised, and these do not change overnight.

The intellectual and ethical developmental stages of undergraduate students have been detailed at length in an enormous and rigorous qualitative longitudinal study, now a classic, undertaken at the Bureau of Study Counsel at Harvard University and first published in 1968 (Perry, 1970). It includes a developmental scheme derived from the data analysis with a fold-out graphic chart, and a very necessary glossary of terms. Some of the terms used have very specific meanings, so this must be used in conjunction with the chart. The one caveat to citing this study is that it was, of course, done on the predominant college population of the day--white, Anglo-Saxon, protestant males. However, many of the findings would still hold true in many institutions, because they are age-based and deal with the process of maturation of members of the dominant group in our western society.

The development scheme moves from the student seeing the world in very dualistic absolute terms, to perception and awareness of diversity and plurality, to acceptance of that diversity within its particular contexts. It then moves from
understanding the necessity of personal orientation in a relativistic world to making and
testing of personal commitments, and ultimately to self-acceptance, affirmation of
identity and continued commitment to self development. This elucidation of the forms of
intellectual and ethical development during the college years was newsworthy and
influential when it was published, and it led to many applications and further research on
undergraduates.

Marcia Baxter Magolda has also explored these transitions in longitudinal studies
of young people through college to the work place and beyond (1992, 2004). Although
she uses different terminology from Perry, and speaks of the “journey towards self-
authorship” (2004, p. xvii), she describes similar developmental stages. “Upon entrance
to college, most participants were absorbed with finding out what authorities thought—a
way of knowing I called absolute” (2004, p. xvii). Baxter Magolda goes on to describe
the later stages of knowing as “transitional, independent, and contextual” (p. 27), with the
last of these generally increasing dramatically in the year or two after college graduation,
that is, somewhat later than described by Perry. Some of her findings also concern sex-
related differences in development, but the basic sequence seems to be the same.

As well as these landmark studies, there are many books on the development of
self-concept and self-esteem in the college years, especially for minority groups, and on
all aspects of social, intellectual, and academic development, such as that by Evans et al
(1998). The most recent research is naturally informed by recent cognitive and
neuroscience studies. In addition, there is at least one journal devoted specifically to
undergraduate students: *The Journal of College Student Development.*
It is widely accepted that entering college freshmen frequently exhibit the dualistic, black/white, right/wrong type of thinking described by Perry and later authors. A very obvious manifestation of these typical undergraduate dualistic thinking patterns is the refusal by many undergraduates to understand ITAs who have English accents different from their own. They tend to take an all or nothing approach and believe the speech to be completely incomprehensible, even if it's only slightly different from what is expected. However, one of the aims of the college experience is to raise the students' own awareness of their thinking patterns and help them develop reflective skepticism and critical thinking skills. As will be seen later, such skills are an important component in the development of intercultural awareness and sensitivity, which are in turn crucial to the development of effective intercultural communication skills.

**Attitudes of American undergraduates to ITAs.**

There is a large quantity of literature on international students in the US, especially on those who are graduate teaching assistants, but what is known so far about young Americans' attitudes to those internationals and to diversity in general? There is a modest amount of research in this specific area with mixed and sometimes contradictory results. As detailed below, it has tended to focus on various attributional characteristics, such as ethnocentrism or the belief that one's own ethnic group with its shared cultural and linguistic heritage is superior to all others. This is part of the research on undergraduates' intercultural communication competence, attitudes, unwillingness to adapt to the concept of World English, receptivity or resistance, emotional state, and feelings of hostility or prejudice towards those perceived as different.
Bailey (1984) speaks of the response of undergraduates to their ITAs' foreignness as "an attitude of annoyed ethnocentricism" (p. 15), whereas Wiseman, Hammer, and Nishida (1989) broke attitude into several factors, including ethnocentrism. They examined predictors of intercultural communication competence as measured in three dimensions: culture-specific understanding (e.g. Japan, US), culture-general understanding, and positive regard for the other culture. The authors extended previous research by applying the model developed by Gudykunst (1977) of the cross-cultural attitude. Three components of the attitude were investigated: cognitive (stereotypes of the other culture), affective (ethnocentrism), and conative (behavioral intentions). These components, along with knowledge of the other culture, were posited to be determinants of intercultural communication competence.

The participants in this study were 887 college students, nearly a quarter from Japan and the rest from the US. The results were rather mixed and not entirely what had been anticipated. The strongest predictor of culture-specific understanding was ethnocentrism, but in a negative correlation as expected. The finding that the next strongest predictor was perceived social distance was surprising and may be partly due to the Japanese sample. Three predictor variables were significantly related to culture-general understanding, ethnocentrism (negatively), perceived knowledge of a specific culture, and perceived social distance. Again, this last result seemed inconsistent with previous research and expectations. Positive regard for the other culture was only minimally related to three predictor variables.

The whole article is rather academic and a little difficult to follow without repeated reading. The researchers concluded that much more research on the dimensions and
predictors of intercultural communication competence is necessary, particularly to investigate their unexpected findings on perceived social distance. Their explanations for these findings were unconvincing and inconclusive, which gives the article a sense of incompleteness and uncertainty. Their honesty in publishing the study can be applauded, for it amounts to saying, “We’ve had an anomalous result, and we can’t explain it. Can anybody help?”

Other researchers used the Cross-cultural Adaptability Inventory (CCAI) to assess the communication skills of undergraduate students and found they have poorly developed intercultural communication skills (Erwin & Coleman, 1998) and just do not know how to interact effectively and respectfully with people from different cultural backgrounds. This investigation is particularly interesting, for it was conducted in a location quite close to that of the present study. It examined the cross-cultural adaptability of 1,430 undergraduate students at a mid-sized university in the Southeast [most likely James Madison University in Virginia], where approximately 88% of the students were Caucasian. Students answered several questions about their foreign language study, exposure to foreign languages, and cross-cultural experiences, in addition to completing the Cross-Cultural Adaptability Inventory (CCAI). This is a widely used, well-researched and studied instrument, with documented reliability and validity. It assesses four dimensions of intercultural effectiveness: emotional resilience, flexibility/openness, perceptual acuity, and personal autonomy. The researchers found that competence and experience in a second language that extend beyond a basic classroom level of knowledge were associated with enhanced cross-cultural adaptability as measured on the above four dimensions.
Although this study was approached from the perspective of assessing students for their ability to successfully undertake study abroad, and 81% of the participants were sophomores, it is quite applicable to the situation of undergraduate students being ready or prepared to learn from ITAs. The CCAI could be used to measure the initial adaptability of freshmen, and it could then be used as a post-test after intercultural training and/or participation in a class taught by an ITA. Unfortunately, time constraints preclude the use of the CCAI in this study.

In an investigation using the Communicator Style Measure, Inglis (1993) discusses teaching evaluations made by undergraduates of 16 ITAs at Memphis State University in Tennessee. It seems that attentive behavior by an ITA (listening carefully and validating and appreciating students’ input, using supportive language) compensates for limited English-speaking skills and results in higher evaluations of the ITAs’ teaching by undergraduates. Although there is no claim that linguistic skills are unimportant, the results of this study suggest that there is much more than linguistic factors involved in students’ perceptions of the teaching ability of ITAs. These factors lie more in the affective realm than the cognitive, though they are naturally intertwined; but they manifest themselves in behavior that may be thoughtless, inconsiderate, disrespectful, or just plain stupid from the point of view of the recipient or a more objective observer. Lippi-Green (1997) even notes, “...it seems likely that preconceptions and fear are strong enough motivators to cause students to construct imaginary accents, and fictional communicative breakdowns” (p. 128).

Rubin and Smith (1990) cite the startling statistic that 40% of undergraduates (at that time) avoided classes taught by ITAs, and that they may even exhibit feelings of
hostility towards foreign graduate students. The researchers found that this was more often due to stereotypical attitudes than to actual classroom teaching by ITAs. Instructor ethnicity and lecture topic were more clearly determinants of undergraduate comprehension and attitudes than the actual speaking proficiency of the instructor. Yet whenever students perceived high levels of accentedness in the spoken English of ITAs, they judged them to be poor teachers. Most importantly, this study reinforces the belief that communication difficulties are owned by both parties to the interaction and advocates training programs that focus on undergraduate attitudes and listening skills as well as on the competence of ITAs. It advocates the development of new models of intercultural training that will “meet the needs of undergraduates encountering NNSTAs [ITAs] at large universities” (p. 351).

Another research finding is that undergraduate students generally exhibit unwillingness to adapt to the concept of World English as distinct from the more familiar Standard American English (Pae, 2001), and there is a need for a paradigm shift. The concept of World English is not a familiar one to most Americans, so typical undergraduates often have difficulty with understanding ITAs because they are expecting Standard American English, and what they hear is not what they expect. On the other hand, international students may find it easier to understand ITAs, because they do not expect them to speak Standard American English. Traditional ITA training programs view ITA speech as deficient and in need of great improvement, so most such programs focus on linguistic abilities with lesser emphasis on pedagogical skills and cultural awareness. The World Englishes perspective recognizes that the intelligibility of any interaction is dependent upon both parties involved--speaker and listener--so it sees
effective communication between undergraduates and ITAs as a shared responsibility. Although this article does not go any further, a logical step from this would be to institute training programs for both sides, so as to optimize communication.

Some research has focused on affective dimensions of learning, such as the receptivity and resistance of undergraduates towards ITAs (Bresnahan & Kim, 1991), and on how positive and negative messages change the attitudes of undergraduates toward ITAs (Bresnahan & Kim, 1993). Yook (1999) also investigates audience receptiveness to ITAs in one of two published studies derived from her 1996 doctoral dissertation in Communication at the University of Minnesota. This report focuses on what can be done to address an almost-neglected issue, that of the ITAs feeling of loss of control over the perceptions US students have of their speaking ability and confidence, and it also offers suggestions to improve the situation.

In her dissertation research, Yook tested four intercultural training treatment conditions, one of which—the Intercultural Sensitizer—emerged as contributing to significantly higher ratings by undergraduates “of the non-native speakers of English as competent speakers” (p. 75). Another variable, deliberate disclosure that the ITA was speaking a second language was analyzed as marginally significant. Yook concludes by calling for “a paradigm shift in our thinking about the ITA problem to include cultural sensitivity as an audience factor” (p. 76). However, she did not investigate whether higher ratings of ITAs led to increased learning or better achievement by the US undergraduates.

In what is generally a very interesting and useful article on attitudes and emotional responses to the culturally different, Spencer-Rodgers and McGovern (2002) discuss
“cognitive, affective, and behavioral (including linguistic) adaptations that can be arduous and troublesome to participants in an intergroup encounter” (p. 610). This seems to be an extension of Yook’s work of the late 1990s and is perhaps the first study to directly address the way intercultural communication emotions can predict the formation of prejudice towards those who are from different cultural backgrounds. The authors found that communication difficulties and cultural barriers gave rise to negative emotions, which in turn led to “prejudicial attitudes and discriminatory behaviors” (p. 629). They also call for more research “on the nature and structure of Americans’ attitudes towards their foreign guests” (p. 613) and discuss factors influencing the assessment of ITAs by US undergraduates. Unfortunately, the Methods, Results, and Discussion sections of the paper are rather mixed-up and overlapping, with some results and interpretation, for example, given in the description of measures. This part of the study also includes a great many literature references, which makes it rather repetitious and confusing.

Thus, many factors are at play when undergraduates evaluate the effectiveness of a teacher, but this is especially so when faced with a very foreign-looking or -sounding graduate teaching assistant, who is not much older than themselves. Negative emotions and attitudes have been found to affect cognition and inhibit learning (Yook & Albert, 1999), so it’s important to minimize such emotions as much as possible for learning to be maximized. Although appearance, race, and age have all been considered as contributing to a negative image, research has shown that the single main factor is actually the knowledge that the person is international (Rubin & Smith, 1990). However, the most overt, easily identifiable characteristic of ITAs, regardless of their country of origin, which becomes the locus for the undergraduates’ feelings of negativity and reinforces the
otherness of the ITAs, is their speech, especially if it is markedly different from Standard American English. Perceived foreign accent of the ITAs, then, acts as both a shield and a barrier to the American undergraduates, who see it, in a passive kind of way, as an insurmountable challenge.

**Accented Speech Research in Relation to Undergraduate Students**

Much of the literature on accented speech also considers the listener as a passive partner in the communication without regard to the active and positive role a listener could and should play. According to Lippi-Green (1997), “In many cases, however, breakdown of communication is due not so much to accent as it is to negative social evaluation of the accent in question, and a rejection of the communicative burden” (p. 71). Clayton (2000) points out that accent is the first test for international teaching assistants and that “some undergraduates are intolerant of people with accents” (p. 14). Students like this tend to see things in black and white and have an all or nothing approach, so typical of the undergraduates studied by Perry (1970), Baxter Magolda (1992, 2004), and Evans et al (1998). Any unfamiliar accent requires some effort to understand (Eisenstein, 1983; Finegan and Siefried, 2000), but it seems that some undergraduates just shut down and refuse to make the effort with ITAs, partly because the bearers of the accent are not seen as members of the same in-group or as members of the dominant society. In fact, Bresnahan et al. (2002) found that “people exhibiting strong ethnic identity preferred American English while people with weak ethnic identity were more accepting of foreign accent” (p. 171). They also found that positive attitudes by undergraduates improved the intelligibility of the ITAs and that negative and stereotypical attitudes decreased comprehension. (Also see Rubin, 1990.)
Rubin later summed the situation up rather neatly:

It’s conceivable to me that in many cases students are systematically underestimating the teaching competence of a non-native instructor, failing to attend to or fully appreciate the instructors’ coherence, examples, and vocal projection...simply because these students have refused to get past accent. (Gravois & Rubin, 2005)

In 1983 Orth compared American students’ evaluations of the speaking proficiency of ITAs with ESL teachers’ evaluations and found very marked differences. The undergraduates evaluated ITAs on extralinguistic or paralinguistic features such as delivery and non-verbals more than on actual linguistic aspects. This was later confirmed in other studies (Chen & Chung, 1993; Neves & Sanyal, 1991; Oppenheim, 1996; Rubin, 1992; Rubin & Smith, 1990).

An interesting footnote is that some people feel we are now in the midst of a second wave of complaints concerning ITAs but with the added new phenomenon of complaints about professors with heavy accents. Some states, such as Missouri, have debated legislation that would require testing of professors’ English language ability (Clayton, 2000). Of course, some authors (Gravois & Rubin, 2005; Wu, 2003) have offered specific suggestions for overcoming or working around the accents of teachers or teaching assistants.

Given that the accented English speech of international teaching assistants is difficult for US undergraduates to understand because of emotional factors, and real and perceived problems, what is the rationale for switching the focus for finding a solution to the problem from the ITAs to the undergraduates themselves?
Why Changes in the Attitudes and Skills of Undergraduate Students are Vital

If undergraduate students are being educated in order to function effectively in the real world, it is extremely important that their attitudes and skills change to keep up with the alterations taking place in the larger society. According to the US Census, "Between 1970 and March 2000, the total foreign-born population increased by 191 percent, from 9.7 million to 28.4 million. (Schmidley, 2001, p. 10), and this trend is likely to continue. This figure includes both citizens and non-citizens and is an indication of the redrawing of the demographic landscape that is currently under way. Extending and reinforcing the idea of inevitable change, the report continues, "In March 2000, 55.9 million or one-fifth of the U.S. population was of foreign stock. This number included 28.4 million foreign born, 14.8 million of foreign parentage (native with both parents foreign born), and 12.7 million of mixed parentage (native with one parent foreign born)” (p. 10).

The consequences of these changes in the population are profound. A report in The Chronicle of Higher Education on November 25, 2005 states “...the overwhelming evidence is that the face of higher education will change greatly over the next decade in favor of more diversity” (p. A1). The author was specifically referring to the projected fall in the number of white high-school graduates, the slight increase in the number of blacks, and the dramatic increase in the number of Hispanics who will be heading to college in the next few years. In addition, the report continues bluntly, “The United States is still the prime destination for foreign scholars” (p. A10), and again the trend is likely to go on for the foreseeable future.

Some authors “point out that rubbing shoulders with other cultures is part of the value of being at a university” (Clayton, 2000), and this is increasingly so as the
university population diversifies. Guo-Ming Cheng, Associate Professor of
Communication Studies at the University of Rhode Island, also points to some important
trends in our interrelated global future:

Five trends have combined to promote a more interdependent future that shapes
our differences into a set of shared concerns and a common agenda. These trends
have transformed the 21st century into the age of the global village in which
people must develop a global mindset in order to live meaningfully and
productively. They include: (1) technology development, (2) globalization of the
economy, (3) widespread population migrations, (4) multiculturalism, and (5) the
demise of the nation state. These dynamics argue strongly for the development of
more proficient intercultural communicators.

We all need to become proficient intercultural communicators, as Cheng says, but this is
particularly important for young people, as the world continues to change and get more
interconnected. This meshes well with other shifts occurring in the field of higher
education.

In a powerful, well-written, and convincing article about the need for a change
from the current Instruction Paradigm to a Learning Paradigm, Barr and Tagg (1995)
ex tended and systematically applied the idea of learning for mastery and of programmed
instruction in vogue in the early 1970s. This fits extremely well with the current K-12
public school policies of No Child Left Behind and standards-based learning. The authors
believe that the role of universities should be to produce learning, and that the students,
faculty, and the institutions themselves have shared responsibility for this. Seat time or
hours of instruction provided should not be important criteria for funding, and the
measurement of learning outcomes would determine success of the individual students
and of the institution as a whole. The argument for change is clearly articulated and
neatly summarized in a parallel chart of the two paradigms over six important
dimensions: Mission and Purpose, Criteria for Success, Teaching/Learning Structures, Learning Theory, Productivity/Funding, and Nature of Roles (pp. 15-16).

As well, it is worth recalling the words of a former international teaching assistant, who saw the problem clearly in 1991: “If the United States is to benefit from the contribution of international TAs in the classroom, domestic students should also be willing to compromise” (Sarkodie-Mensah, p. 116.) He also succinctly summed up the positive outcomes if there is a change of focus: “A reciprocal understanding of the behavior and expectations of both international TAs and U.S. students will enhance the students’ education and will benefit the entire college community” (p. 116).

What can be done to help students overcome the challenges the speech of foreign nationals presents? How can they learn to be willing to suspend judgment and recognize and curb negative feelings? How can they practice this in the educational setting ready to apply it to their lives? To answer these and other questions, it is important to look at a whole range of possible approaches focusing on undergraduates, to note those that have been tried and those that were successful, and to see what else might be done to resolve the problem and achieve optimal learning.

Approaches for Change Focusing on Undergraduate Students

The traditional approach.

There is a hierarchy of possible courses of action including that of doing nothing. In fact, the traditional approach to the problem of undergraduates’ finding difficulty in learning from international teaching assistants has been to focus exclusively on the teaching assistants’ deficiencies and possible shortcomings and to ignore any role that the
undergraduates themselves play in the joint problem. Other approaches have put the focus on placating and soothing those who were upset or complaining, and not actually doing anything substantive about the basic issues—a kind of band-aid remedy.

Negative advice.

Another, but somewhat counter-productive method, involves negative advice, such as that given on the website of Iowa State University as a Message to American Undergraduates about Studying with International TAs: “Don't make an instant negative judgment when you realize you have an ITA for one of your classes.” Although well-meant, advice such as this immediately plants the seeds of a negative evaluation of ITAs in the minds of incoming freshmen.

Use of undergraduates to assess teaching assistants.

A seemingly more positive approach to the problem is suggested by Yule and Hoffman (1993) who enlisted the help of undergraduates in evaluating ITAs. This short, clear report details an experiment using undergraduate students to rate ITAs. This was done as a means of confirming other ratings made by English as a Second Language teachers and administrators, who have responsibility for evaluating international graduate students as ready for teaching assignments or not. This is seen as a difficult and stressful responsibility, so the idea was to alleviate some of the negative affect by examining the consistency of overall ratings by the different evaluators. The study includes the short (8-question) evaluation sheet used by the undergraduate students, whereas the evaluation by the teachers and administrators was either positive (yes to teaching assignments) or negative.
Although the researchers conclude that the undergraduate evaluation of ITAs’ teaching readiness “matches very closely the votes of professionals in the field” (p.325), there are some weaknesses in the research design. The undergraduate evaluators are sophomores doing an introductory linguistics course, which means that they have an interest in the study of language and that they are more experienced and mature than freshmen would be. This is also quite likely not their first encounter with ITAs. Rather than enlisting the aid of undergraduate students as a means to improve learning or teaching, the authors finally reveal their real agenda: “Because they [undergraduates] were the instigators [by complaining] of a responsibility which has generally been passed on to ESL professionals, it would seem quite appropriate that U.S. undergraduates should be encouraged to share that responsibility.” (p. 326). Therefore, this approach based on resentment at increased workload is fundamentally suspect. It is, moreover, also probably actually detrimental, in that it fosters a climate of distrust, and an us versus them attitude, with the undergraduates really acting like informants and finding fault with the ITAs. No mention is made of any benefits to the undergraduate students using this approach.

Another study with masked goals is an “analysis of the stories of 25 undergraduate students” by Fitch and Morgan (1993), which has the supposed aim of finding ways to foster a “more productive learning environment” for undergraduate students, but which ultimately results in a series of suggestions related to the effective training of ITAs. Again, there is faulty thinking, and the focus swings back from the characteristics of undergraduates to how to train the ITAs better.
Cultural awareness.

Although administrators on many campuses understand that fostering cultural awareness is important, they often don’t realize that going beyond that is necessary to develop and acquire the necessary practical skills. This relates to Milton Bennett’s model of the steps in developing intercultural sensitivity, which will be discussed further in the section on Intercultural communication skills later in this chapter.

Tangle of competing yet intertwined issues.

The issue of raising cultural awareness is itself fraught with problems, largely because it has traditionally often been entangled in a confusion of other overlapping and interrelated concerns, such as multiculturalism and diversity. As early as 1990 in a Carnegie Foundation Report, whether called valuing diversity, internationalizing the campus, improving race relations, or any of numerous other titles, intercultural relations was listed by college presidents as one of the top five issues of greatest concern on university campuses. Yet confusion still abounds: overall policy is frequently not coherent; efforts are often piecemeal and scattered; resources are stretched thin; and special interest groups compete with each other while having essentially the same mission and purpose. A good example of this continued confusion is Increasing Faculty Diversity (Cole & Barber, 2003), which at first glance, would seem to be about increasing diversity [in the broadest sense] in university faculty, including more and more international professors and instructors teaching outside their native culture and language. Surprisingly, [or perhaps not surprisingly, considering the way diversity is becoming a politically correct and codified term for racial/ethnic matters within the US], it only deals with domestic diversity/ multicultural/ racial issues and is really an exhaustive [and
exhausting] study of why high-achieving minority students, who are US citizens, do not become college professors.

There is confusion and tangling of semantics and issues, as the authors begin by discussing how the US is becoming a more multicultural society, and they even mention continued increases in immigration. They recognize the gains in increasing diversity of college students in the last 30 years and state, “The overwhelming majority of the academic community believes that racial and ethnic diversity of both the students and faculty is a desirable goal” (p. 1). However, they seem to have completely ignored other types of diversity, such as diversity of religious belief, sexual orientation, age, physical challenges, and so on. In advocating that the proportions of minority faculty should mirror the larger society, they make a couple of astounding and rather outdated assumptions:

...faculty diversity is believed to be necessary to afford minority students the kind of teachers who will be sympathetic to their special problems, give them the kind of encouragement they need to succeed in college and beyond, and demonstrate to them that in the academic sphere, at least, full recognition of the ability of minority group members is possible. It is assumed that the traditional advantages of white students, both in college and beyond, will persist as long as African American, Latino, and Asian students are taught by faculty who are predominantly, if not exclusively, white (p. 2).

This totally ignores the numbers of caring international (often racially minority) faculty and ITAs already here, who are probably not US citizens, but who teach large numbers of undergraduates, including minorities. The study also has sampling bias, as it supposedly ignored all students from the three selected universities who were not US citizens. However, even this was not consistent, as students who were permanent resident aliens were included by some of the responding registrars (p. 51), but not by others.
A more rational and up-to-date discussion of the issues and confusion in this area is given in a chapter by Janet and Milton Bennett in Gary Althen’s book, *Learning across cultures* (1994) published by NAFSA, the Association of International Educators. The Bennetts strongly believe that instead of competing with each other, multiculturalists and international educators should work together, for their goals are essentially the same—developing mutual understanding and respect for those of different cultural backgrounds. They advocate an intercultural approach, because the main strength of this is “that it emphasizes respect for all cultures through understanding and appreciating their differences” (p. 164). As they clearly point out,

...international educators could--and should--play an important role in developing the base for intercultural dialogue. They have experience in understanding cultural difference. They have experience in facilitating cultural adaptation in educational settings. And they believe that cultural diversity on campuses is important to accomplishing the goals of higher education in this society. Multiculturalists should recognize the expertise and commitment of internationalists and incorporate them into the campus diversity plan. (p. 164-165)

In essence, a unified intercultural approach to the issues of campus diversity, such as already utilized by most international educators, would subsume the other tangled and overlapping fields and make more rational, coherent, and practical development possible. However, without this being done, there are already numerous related activities and initiatives in place on college campuses.

*Increased exposure, shared activities, buddies and language partners.*

Some of the ways to help undergraduate students become more flexible and mature in their thinking include providing opportunities for contact among different cultural groups (Spencer-Rodgers & McGovern, 2002). Some schools pair American undergraduates with international students at both the undergraduate and graduate level.
in *buddy* and *language-partner* programs, and others do it just for graduate international students as part of their training to be ITAs. Although intended primarily to improve the ITAs’ ability in English and familiarity with American undergraduates’ cultural norms and behavior, the benefits to many of the younger students cannot be denied. This is particularly true for the development of tolerance and familiarity with accented English. This increased contact is supposed to lead to better understanding of people of different backgrounds and to a reduction in intercultural anxiety, but for various reasons, this may not always be true.

*Empathy development.*

There has been some specific work done on the development of empathy in students taught by international teaching assistants, as this has been widely believed to reduce ethnocentrism and also improve student recall of class content. Nelson (1992) reports the results of an intercultural study in which a male ITA was videotaped twice giving a 10-minute lecture on interpersonal communication. In the first condition, the ITA used personal cultural examples to illustrate the main points of the lecture, and in the second condition, only more general hypothetical examples were given. The videotapes were shown to two groups of undergraduate students (total number =160) who then completed a recall of lecture content and questionnaires on uncertainty, attitude, and ethnocentrism. Although non-native speakers of English and non-American citizens were excluded from the undergraduate groups, the otherwise intact groups were randomly assigned to the treatment conditions. As this was a possible threat to internal validity, the groups were compared on a number of demographic variables and found not to be significantly different. Results showed that the use of personal examples by the
International Teaching Assistant “significantly reduced student uncertainty” (p. 41), and improved attitudes towards the ITA and recall of lecture content. However, contrary to expectations and to the results of other researchers, such as Bailey (1984), Wiseman et al. (1989), and Landa and Perry (in Bailey et al., 1984), ethnocentrism did not correlate positively with attitude or recall. This was a rather surprising finding, but it may partly be a factor of the particular instrument used to assess this characteristic. The study has some major limitations in that it uses only one ITA in one particular setting with a once only assessment by different groups of students. The use of personal cultural examples would also not be as applicable or appropriate to all disciplines, such as math or science, as it is to communication studies.

**Prejudice reduction.**

*Prejudice* means negative feelings, discriminatory behavior, or faulty thinking held in advance—pre-judging—of actual contact or real knowledge (Allport, 1954; Stephan & Stephan, 1996). Often, this kind of thinking or attitude is inherited or absorbed from parents or other influential people, and it is frequently associated with little or no knowledge of the actual person or thing being discriminated against. There are a multitude of reasons for the development of prejudice, including acceptance of negative stereotypes and fear of the unknown. A belief that increased contact or exposure between different groups always leads to a reduction in prejudice is what drives many campus programs and activities, when, in fact, this may or may not be true. Prejudice reduction and tolerance do not occur by osmosis, and people who hold strong beliefs do not usually change them quickly. Appeal to intellectual, emotional, and other aspects of personality all have to occur for behavioral changes to take place. Although awareness programs are
valuable as first steps in developing intercultural sensitivity, they often take a random, rather haphazard approach and should therefore be systematized as part of a larger overall and coherent program aimed at skills development, not just acquisition of interesting, but discrete facts. This is exactly why an understanding of the theoretical background is important to the development of research-based, rational, and effective activities aimed squarely at fostering attitude and behavioral change.

*Intercultural communication skills.*

It's immediately apparent to anyone hearing Milton Bennett's theory of intercultural communication (1998) that he was probably influenced by the work of Perry (1970), at least indirectly, although this is not usually acknowledged. Bennett's model is a basic conceptual framework of the development of intercultural sensitivity. It identifies six widely recognized and sequential stages in the process of achieving intercultural communication competence, although there may also be others. Thus it offers an elucidation of the theoretical basis for the hierarchy of communication skills needed to interact effectively with those of different cultural backgrounds and is also an important theoretical underpinning of the present study.

The publication of this model by Bennett was something of a landmark in the field of intercultural communication studies, for it had undergone a long incubation. In fact, Bennett had presented it, in parts and as a whole, discussed it, argued about it, received feedback, and modified it, over several years at numerous conferences and training sessions. (The author of this study participated in at least two of these discussions at a conference in Boston in the late 80s and at a training session for intercultural trainers in Tokyo in the early 90s.) By the time the model was actually
published by Bennett himself in book form (1998), along with a collection of readings, essays, and case studies which illustrate the different stages of intercultural sensitivity, it was widely known and agreed upon by practitioners in the field to be an acceptable and appropriate theoretical base on which to pin training design. A depiction of Bennett’s model is shown in Figure 1.

The six stages of Bennett’s conceptualization lie along a developmental continuum, and people go through them at different rates, depending on personality, education, and life experience. Some people never move beyond the first stage, others get stuck part-way along, and still others move quickly towards the last stages because of their life circumstances, education, or personal effort. The continuum is divided in half with the first three developmental stages considered to be ethnocentric, meaning that one’s own culture is regarded as central to reality. The other three stages are labeled ethnorelative, which means that culture is experienced in a relative way, in the context of other cultures. Moving between these domains, from an ethnocentric world-view to an ethnorelative one is probably the biggest hurdle for most people.

The six steps in the process are denial, defense, minimization, acceptance, adaptation, and integration. The first of these, denial, is the most ethnocentric stage, as people try to maintain physical and psychological distance from those who are different. Occasionally, people at this stage act in an aggressive way if cultural differences affect them negatively, or even if they just feel afraid of what is unknown or unfamiliar to them.

The second stage, defense, is characterized by belief that one’s own culture (even an adopted culture) is superior to all others. The world is seen in very dualistic terms, us versus them, and cultural difference is perceived as very threatening.
People at this stage are often extremely critical of other cultures and value being seen as fully-fledged members of their own culture.

The third stage, minimization, involves minimizing differences between one’s own and other world views. At this stage, people often expect similarities, and they tend to disregard some very basic and important cultural differences in their eagerness to emphasize points of agreement. This can lead to trivializing or romanticizing the other culture, which is just another form of disrespect.

When people reach the fourth stage of acceptance of cultural difference, they are able to experience their own culture as just one of many equally complex cultures in the

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world. They may not be interested in changing any of their own behaviors or patterns of thinking, but they are usually curious about and show interest and respect toward cultural difference. This stage of development marks the beginning of change from a very ethnocentric viewpoint to an ethnorelative one.

Adaptation to cultural difference is the fifth stage in the model. At this stage, people are able to perceive, understand, and incorporate constructs from other worldviews, and they may even intentionally adapt their own behavior to be more appropriate in the other culture. The purpose of "putting oneself in the other person's shoes" or code switching is to communicate more effectively with people from the other culture. Although the general topic of cultural adaptation, such as how to handle adjustment problems and culture shock, the need for a sense of humor, flexibility, and the ability to tolerate uncertainty, may all be regarded as relevant to Stage 5, these are actually an important and perhaps necessary component of moving from any one stage to another.

The sixth and final stage of the model is that of integration, in which individuals are able to move comfortably in and out of different cultures, and in fact, incorporate different worldviews in their own experience of selfhood. The intercultural competency skills of people at this stage may be no different from those of people at the fifth stage of adaptation, but the level of ease and comfort in making transitions is greater. People at this stage of intercultural sensitivity have often moved a great deal, may have lived in different countries, or different ethnic communities, and frequently speak two or more languages. They may be "cultural marginals" (Bennett), members of non-dominant
groups, or expatriates, who feel that they have more in common with each other than with members of their own original culture.

The last three decades have witnessed a burgeoning of the field of intercultural communication, though it may appear under different guises, such as multicultural education, diversity issues, cross-cultural communication, or prejudice reduction. Many texts and readers have been published, such as those by C. Bennett (1999), Byram (1997), Jandt (1995), and Martin & Hammer (1989). Samovar and Porter (1994) believe culture and communication are inextricably linked and that “the communication repertories people possess can vary significantly from culture to culture, which can lead to all sorts of difficulties” (p. 20). This is why there is a great need for systematic training to guide people from one cultural sensitivity developmental stage to the next. Milton Bennett’s model is thus directly applicable to the design and implementation of practical training programs.

Intercultural training.

Much has been written on the design, sequencing, and pacing of intercultural training programs, and there are many practical and helpful guides available describing different methodologies, exercises, and training modules. Some examples are Bhawuk & Brislin (2000), Chen (1993), Cushner & Brislin (1995), and Kohls & Brussow (1995). Such training is applicable and relevant to a great many fields, indeed to any area where people of different cultural backgrounds must work and interact effectively together, such as domestic and international business, health care, the travel industry, and of course, education.
Intercultural training in educational settings.

There are some matters of concern with undergraduates which indicate that training them in intercultural communication skills would be extremely beneficial (Althen, 1994). For example, Oppenheim (1996) studied real-life classroom interactions of undergraduates with ITAs and found that undergraduates in beginning courses are in need of more help to learn successfully when taught by ITAs than when taught by native-English speaking TAs. Oppenheim concluded this is not only attributable to the English language of the ITAs, but also to a great many other issues, such as prior domain knowledge and learner readiness.

Yook & Albert (1999) report on several factors affecting ratings of teaching effectiveness of ITAs by undergraduates. The affective mindset of the audience, cognitive appraisals and attributions, and cognitive capacity are all involved. The last is affected by high levels of emotional arousal, which leads to stereotyping due to lack of cognitive capacity (p. 4). Understanding accented speech is cognitively more difficult than understanding the speech of native-speakers, so it requires extra effort. Empathy (putting oneself in another’s shoes) and an understanding of the difficulty of accent improvement in adults are expected to create more willingness to comprehend. Intercultural training has been shown to affect attributional ability and emotions. Yook and Albert’s study shows that intercultural training can lower dispositional (personal) attributions, and these, in turn, diminish negative emotions such as disgust and anger. Happiness “leads to higher evaluations of speaker competence, while disgust leads to lower evaluations” (p. 15). The authors reach two conclusions:

1) There is a complex relationship between intercultural training, cognition, and emotions in perceptions of non-native speakers.
2) Perceptions of ITAs’ competence can be influenced by the intercultural training of US undergraduate students.

Yook and Albert also strongly advocate more research on the variables investigated in their study as being “especially relevant in an age of globalization” (p. 16). Thus the authors strongly support intercultural training of undergraduates.

*Developing critical thinking skills.*

Any activities aimed at improving the critical thinking skills of undergraduates are beneficial to their intellectual and moral development (Perry, 1970). Intercultural training helps foster critical thinking skills in several ways. It helps people learn to examine a situation first just from the observable facts without interpretation, and then from several different viewpoints. It heightens observation skills and can expose participants (especially young people) to their dualistic thinking, while increasing their awareness of how they think and know, and the sources of their own attitudes. Reflective thinking and healthy skepticism are important components of critical listening and thinking skills and are also part of developing willingness to delay judgment, which is so vital in intercultural and interpersonal encounters.

*Positive self-esteem.*

There have been many publications on the importance of helping young people at colleges, particularly those of minority groups, develop positive self-esteem. Fostering self-esteem is often cited as a reason for the existence of single sex and all-black colleges. Although intercultural training doesn’t overtly address this issue, it does so quite powerfully in an indirect and more basic way, by espousing the value of all cultures and all groups and asserting they are just different, not better or worse than each other. It also advocates and teaches respect for groups different from our own, examines similarities
and differences, both obvious and hidden to the casual observer, and more importantly, it requires and develops practical interaction skills. Clearly, such skills take time, guidance, and proper training to nurture, as they run counter to our basic instincts and do not just develop by themselves, either when we are exposed to different groups or when we are separated from them.

Curiosity.

One of the key factors in continually developing intercultural skills seems to be that of curiosity. Dr. Janet M. Bennett, Executive Director of the Intercultural Communication Institute (ICI) in Portland, Oregon, and Director of the Master of Arts degree in Intercultural Relations jointly sponsored by ICI and the University of the Pacific spoke at a Tokyo meeting of SIETAR Japan on March 10, 2004 on just this topic. A specialist in developing theory and training design for those who teach, manage, or train across cultures, she believes recent research shows curiosity to be “the key variable in effective intercultural interaction” (Bennett, 2004). During her talk, she explored how curiosity enhances intercultural experiences, what kinds of teaching and training activities promote learner curiosity, how to help students become “respectfully curious,” and the skills necessary for reflective observation.

Some other relevant comments on this topic are found in an article by Dr. Bruce Perry called: Curiosity, Pleasure and Play: A Neurodevelopmental Perspective (Perry, et al., 2000) and in other work by the same author on curiosity in early childhood (Perry, 2001). The relationship of curiosity to pleasure, play, cognition, and self-confidence is not only interesting and important, but it is also a salient feature of the choice of training activity used for the present study as discussed later in this chapter. This relationship
holds true, not only for young children, but for people of all ages, as mentioned below.

Play takes many forms but the heart of all play is pleasure. If it isn't fun, it isn't play. We play from birth on – we play using our bodies (e.g., building with blocks) and our minds (e.g., fantasy play). We use words to play (e.g., jokes, wit, humor) and we use props (e.g., blocks, toys, games). While the exact nature of play evolves, becoming more complex as we grow, play at all ages brings pleasure. And with pleasure comes the powerful drive to repeat the pleasurable activity. And with repetition, comes mastery. Mastery brings a sense of accomplishment and confidence. The more comfortable a child feels with the world, the more likely she will explore, discover, master and learn. This cycle starts with curiosity.

Curiosity, a neurobiological feature of many primates, drives exploratory play. Play can satisfy curiosity as the child explores their environment, thereby, expanding their catalogue of experience. When the child explores, she discovers. A wonderful cycle of learning is driven by the pleasure in play. A child is curious; she explores and discovers. The discovery brings pleasure; the pleasure leads to repetition and practice. Practice brings mastery; mastery brings the pleasure and confidence to once again act on curiosity. All learning – emotional, social, motor and cognitive – is accelerated and facilitated by repetition fueled by the pleasure of play. (Perry, et al., 2000)

Psychologists know that fear and disapproval of parents can crush curiosity in children, but curiosity has so many benefits, that it should be encouraged and fostered.

This is summarized neatly by Perry and shown in Figure 2.

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<td>Self esteem</td>
<td>results in</td>
<td>Sense of Security</td>
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<td>results in</td>
<td>More Exploration</td>
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Figure 2. Perry’s cycle of curiosity (2001).
Thus it is easy to see that if curiosity brings pleasure and approval, as intercultural curiosity usually does, then it can be a powerful factor in strengthening self-esteem and in the development of intercultural communication skills.

In a related discussion, a motivational speaker and change project consultant, Jim Canterucci, has this to say on the topic of innovation: “Four distinguishing traits work in tandem to set personal innovators apart: awareness, curiosity, focus, and initiative” (Canterucci, 2005). To become aware of oneself and others, he stresses non-robotic thinking and urges people to accept different perspectives. Among other things, he also advocates being aware by using all the senses, looking closely at processes and considering how and why things are done, and avoiding sweeping statements and generalizations. He believes “Curiosity flows seamlessly from awareness” and that it’s important to give yourself the freedom to take risks and make mistakes. He continues, “Curiosity requires trust--trust that everyone and every situation have something to teach you.” He further states, “Curiosity jump-starts the habit of innovation by taking you to deeper levels of knowing and helping you to relate to others.” Although he is speaking of acquiring the habits of innovators, much of what he says is directly applicable to the development of intercultural curiosity and ultimately intercultural sensitivity and communication skills:

To develop curiosity:

- Routinely seek opinions from people who have no experience with the subject. These can be the most refreshing sources of new information, since they are not entrenched in assumptions and mindsets.
- Seek alternative solutions, even when all is well. This gives you fallback positions.
- Try new things. Even if they don't work out, you'll learn lessons to apply elsewhere.
- When you have a problem, work like a detective. Ask questions. Look at
everything. Seek out experts for their views. Do your own research.

- Notice and eliminate assumptions. They're usually wrong, yet we accept them as "fact."
- Fire your inner judge. Give ideas time to percolate before assessing them.
- "Browse" everywhere—at the library or newsstand, at friends' homes (stick with what's in the open!), with the yellow pages. Explore new places and types of information. Take different routes.
- Ask questions of those you encounter—find out what they do and what else they do. Find out how these their[sic] activities fit into the world and how the [sic]their interest began. (Canterucci, 2005)

Canterucci goes on to speak of focus and initiative in the context of innovation, of coming up with new, especially marketable ideas; but what is forging a communication link with someone, if not a type of innovation? In his words: “Why do we avoid taking initiative? In a word, fear. We're afraid of putting ourselves out there, of failing, of risking, of looking stupid. Eventually, we must decide that our goals matter more than our fears.” Just as fear inhibits curiosity, so it is also a de-motivating force for initiative, innovation, and reaching out to other people in the form of communication.

How can the fears undergraduates have about international teaching assistants be dispelled to help them learn more effectively from these valuable resources? One way is to help undergraduates feel more comfortable with listening to and understanding accented English, that is, English different from their own.

*Listening skills for World English.*

As noted previously in this discussion, a topic that is always raised in reviews of the effectiveness of ITAs is that of the foreign-sounding and unfamiliar accent of those graduate students (Pae, 2001). However, there seems to be a lot of confusion in the understanding and definition of this term, not only in the literature, but also in the common press and in everyday general use. In order to know what to do about it, we need to know what exactly is meant by accent.
The basic technical meaning of accent is the breakthrough or interference of native language sounds, that is, vowels and consonants, into another language, in this study, into English. Pronunciation, however, is the overall way in which a language is spoken, including paralinguistic or extralinguistic features, such as rate, tone, intonation, and stress patterns. To confuse the issue, there is a second use of accent to mean the stress on a particular syllable in a word, or on a particular word in a phrase or sentence. In English, for example, putting an accent on the second syllable of a word, conduct, indicates a verb as opposed to the noun, conduct, spelled exactly the same way. In common usage, unfortunately, and in much of the literature, accent seems more often to refer to the stress and intonation patterns of the native language that are carried over into English, rather than just to the actual sounds, the vowels and consonants themselves.

Thus the technical meanings of pronunciation and accent are frequently actually reversed, and those discussing remedies to the problem are sometimes talking at cross-purposes. In her book, English with an accent (1997), which concerns “attitudes towards language variation, and the personal and institutionalized behaviors resulting from those beliefs” (p. 9), Rosina Lippi-Green says accent is “generally a loose reference to a specific ‘way of speaking’” (p. 42). She herself however, uses the term a little more specifically and defines it in the following way: Accents are loose bundles of prosodic and segmental features distributed over geographic and/or social space (p. 42).

Speaking in relation to this issue regarding adults, Donald L. Rubin, Professor of Speech Communication and Language and Literacy Education at the University of Georgia said, “It’s easier to modify one’s intonation and word stress patterns than it is to modify consonant formation” (Gravois and Rubin, 2005). He continued, “And the good
news is that intonation and word stress are very critical to comprehensibility. We can get by with fairly pronounced accent [the technical, correct sense] so long as we conform to host language norms for intonation.”

During the on-line colloquy just cited, an anonymous questioner later commented, “I noticed it was mostly white students and some black that complained throughout the semester.” In response, Rubin had the following to say, which is worth quoting at length:

In our research, we have never considered the language backgrounds of the students—but it is a good point to think about. Our studies do suggest that EXPOSURE to accented speech helps listeners in comprehending World Englishes. That is, students who report the most exposure to internationals score highest on tests of comprehension of accented speech. And you raise one more good point: listeners have different rates of adjustment to accented speech. We don’t exactly know how or why that happens. It’s exactly the point of a research proposal for which my colleagues and I are trying to get support. Maybe someday we’ll be able to answer your questions more adequately.

Although Rubin’s opinion that international instructors are a campus-wide resource and that undergraduates should be trained to learn more effectively from them was already cited in Chapter I, it is valuable to reiterate it here in the context of World English.

Any problems in teaching and learning that arise from international instructors require a campus-wide effort. Support for ITAs (and also continuing support for non-native English speaking faculty members) is key, and much progress has been made in many fine programs on that score. But also key is attention to undergraduates’ listening abilities. Very few—if any—programs exist to support undergraduates as listeners of World Englishes. Improvements in intercultural teaching and learning—crucial for participating in the global community of knowledge and commerce—cannot be achieved by addressing only one half of the problem. (Gravois and Rubin, 2005)

Rubin summarizes the problem well, and basically gives the rationale behind the present study. However, important as exposure to accented speech is for developing the listening skills needed in today’s global society, one of the problems is that this kind of training takes time and practice. Until colleges recognize the importance of such training
and give time and money to support it, it is difficult to study its effectiveness or
implement it at all, despite its great potential. For this research study, constraints of time
and support have certainly meant that long-term training was out of the question. Yet, as
Lippi-Green says, “undergraduates can benefit enormously from this group of teachers if
they put aside stereotypes and biases” (p. 125). Therefore, some type of intermediate or
“baby step” was still worth testing, to expose how emotions interfere with understanding,
to raise awareness, and to point the way toward a long-term solution.

As discussed in the earlier section of this study on Research Specifically on
Undergraduate Students (pp. 39-41), American undergraduates have already been used in
a limited way and at a relatively small number of schools to help in training teaching
assistants for college classrooms (Schneider & Stevens, 1991; Clayton, 2000; Bresnahan
et al., 2002). However, much more could be done. Besides training undergraduates to
have better listening skills, they could be taught to delay judgments about people who
have different English accents from their own, that is, not to have a “psychological shut­
down” and refuse to learn from foreigners, but to meet them half-way to achieve effective
learning outcomes. This could be done in Freshman Seminars or similar meetings
throughout the first semester of college, in orientation programs before the school year
begins, or as part of an on-going required general intercultural communication or
diversity training course for students during the whole first year of their college study.

**Most recent and current approaches.**

Reference has already been made to Nagesh Rao’s influential conference
presentation on the *Oh No! syndrome* (Rao, 1993). In fact, Rao gave four separate papers
to different conferences between 1993 and 1995, each beginning with *The Oh No!* syndrome. This particular paper, which was presented at the Fourth National Conference on the Training and Employment of Graduate Teaching Assistants, in Chicago, Illinois, goes beyond the analysis of the negative reactions and attitudes of undergraduates to talk of what can be done to help them to learn more effectively when taught by ITAs. In fact, this became the title of a training program Rao helped institute, which is still in place at Michigan State University today—a program that pairs undergraduate students as buddies with ITAs.

Other recent approaches can be ascertained from the ITA interest section posting on the TESOL website (http://www.ita-is.org/). There are 46 university programs listed, and surely many not linked. Besides offering handbooks to help TAs and ITAs prepare for classroom teaching, some schools offer tips and advice sections for undergraduates who may have international instructors. Other programs recruit undergraduates to act as buddies, mentors, peer tutors, language coaches, and guides to international teaching assistants: but the main function of these is to teach the internationals about American culture and the academic lives of American undergraduates, rather than to prepare the undergraduates for being taught by an ITA.

A few schools ask for voluntary participation by undergraduates in workshops aimed at the ITAs, and two, the University of Utah and the University of New Mexico, have recently begun to run programs of 1-2 weeks at the beginning of the school year specifically for undergraduates who have ITAs. In general though, there is very little being done in any systematic way to prepare mainstream undergraduates for having international instructors, whether ITAs or professors.
Nobody really knows how much of a problem perceived difficulties with ITAs continue to be on campuses, but as recently as February, 2007, one such written complaint was received by the Head of the Statistics Department at the university where this study took place (personal communication). This was lodged by the parent of a freshman against a Chinese graduate teaching assistant for lack of English ability. Some authors, such as Plakans (1997), offer specific suggestions (p. 112) to help, but it’s clear there is still a problem as perceived by undergraduates, especially when asked in a group context. Damron (2000) mentions this drawback as a negative in assessing the results of her focus interviews and mentions “groupspeak” as a very real phenomenon (p. 81).

In addition, when approached about possible involvement in this study, the director of the Center for Excellence in Undergraduate Teaching (CEUT) at the same university inquired as to the possibility of including international faculty, as apparently complaints are received occasionally from students about difficulties in understanding some non-native-English-speaking professors. It’s a logical conclusion that the numbers of international professors are increasing, as some of those who have been ITAs here move into the ranks of full-time faculty members.

Preferred Types of Interventions

There are four pedagogically-sound, widely accepted, and proven methods of training people to develop intercultural skills. These seem to be preferred by trainers and participants alike, largely because they are both enjoyable and effective. Case studies, cultural assimilators or critical incidents, experiential training, and gaming and simulation will be discussed separately below.
Case studies.

The case study learning technique is widely used in many fields, such as psychology, social work, and business, so it can certainly be easily utilized in the field of intercultural communication, if there is plenty of time. It involves a longitudinal approach to a particular situation and an in-depth analysis of parameters and possible courses of action. These are evaluated, and accepted or rejected based on the known facts of the situation. Case studies may involve discussion, small group work, and the writing of reports analyzing the situation and giving recommendations about future actions, or they may simply require a lone individual to read and ponder a situation. Readers are expected to learn vicariously and apply their knowledge to new situations. Students usually find case studies interesting, especially at first, but if they are asked to read a great many, they may find the studies getting jumbled, boring, and somewhat tedious and repetitive.

Critical incidents.

Critical incidents or cultural assimilators are really just very short case studies or scenarios in which some cultural misunderstanding or clash occurs. These are read and analyzed, perhaps in groups, and then students pick the best choice from several possible and plausible explanations for what occurred. Each possible choice is usually discussed in an answer section of a book or by the facilitator in a live training session to help the trainees understand the underlying concepts and causes for behavior and how and why judgments are made.

Cushner and Brislin’s widely used classic in the field, *Intercultural interactions: A practical guide* (1995), provides many examples as well as describing the method and providing practical suggestions for its use. Many people believe use of critical incidents
facilitates the development of a sophisticated understanding of cultural behavior and the emotional consequences of culture clash, and thus helps develop the skills required to respond effectively to many everyday situations.

The critical incident method can be adapted along culture-specific or culture-general lines, into role-plays, and to introduce a topic as a key point in understanding more complex concepts. It is usually well-received and enjoyed by participants; and in fact, it was used by Yook in her 1996 dissertation research as one method of testing whether undergraduates could be trained to become more receptive to learning from non-native speaking instructors. It can also be used as a component of other programs, such as language courses; for example, the text, *Crossing cultures in the language classroom*, written by DeCapua and Wintergerst in 2004, is intended for use in teacher training programs or general education courses of at least a semester in length. This points to a disadvantage of the critical incident method. Although each incident may only require 5-10 minutes of time, trainees need to cover large numbers of them to show positive effects in terms of their intercultural sensitivity and interaction skills. This is a definite drawback to their use in short training programs.

*Experiential training.*

Experiential learning has been used for a long time. It is the traditional way younger members of a family or tribe learned life skills and oral history from elders, followers learned doctrine and management from leaders, and apprentices learned trade and craft secrets from master craftsmen. Once formal education became systematized and widespread, experiential learning was regarded as incidental, occurring outside the classroom, and extracurricular.
In an essay on academic quality in study abroad programs, Michael Steinberg, Director of Academic Programs at the Institute for the International Education of Students (IES), gives a memorable quote from a 1918 book, *The Education of Henry Adams* to illustrate this. Adams had gone to Berlin in 1858 to study. “Within a day or two he was running about with the rest to beer-cellars and music-halls and dance-rooms, smoking bad tobacco, drinking poor beer, and eating sauerkraut and sausages as though he knew no better” (Adams, Ch. 5, par. 7 as cited by Steinberg, p.3). Adams’ formal classes at the university in Berlin were dull, boring, and tedious, but he had to endure them and pay the professors’ fees if he wanted to get his degree. Nowadays the term *experiential learning* is rather more specific with learning not confined to a classroom setting but involving a total experience with much of the learning taking place outside the classroom in a more guided or structured kind of way than before. This is where the concept of *experiential training* comes in, with preparation before the learning experience, guidance during, and reflective follow up, including processing, analysis, and discussion of many of the experiences afterward.

Of the many publications in the field of *experiential learning and training*, the one cited most often is that by Harvard professor, David Kolb, also well-known for his studies of learning styles. In *Experiential learning* (1984), Kolb distinguishes *experiential learning* theory from cognitive and behavioral theories and traces its roots to the work of Dewey, Lewin, and Piaget. He defines learning as “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience” (p. 41). The basis of *experiential learning* and hence *training* is the idea that just doing something is not enough. It is the
reflection afterwards and the learning from the experience that can lead to better understanding and change. Kolb’s experiential learning cycle makes this clear (Figure 3). Thus one of the main tasks of experiential learning and training is processing the experience or assisting people in developing insight, knowledge, and skills that they can transfer to their lives by thinking, describing, analyzing, and communicating about experiences and learning about themselves.

![Kolb's model of experiential learning (1984)](image)

*Figure 3.* Kolb’s model of experiential learning (1984).

Some people, especially those in the corporate training world (See for example, Sabre Corporate Training, 2002), believe that *experiential learning* fosters a sense of ownership of what is being learned, so that individuals take more responsibility for their own learning and behavior and therefore learn more effectively. However, it’s not always possible to take learners outside, to another location, or to another country to have a specific learning experience; hence the value of the last type of intercultural training to be discussed—*simulation* and *gaming*.
Simulation and gaming.

Because of constraints of time, space, and money, simulations of real events or processes are often used. Simulations are of many different types and are used in many different disciplines. Although most compress time and space, they do so at several different levels and use different technologies—they can be computer or manual simulations. They can be mathematical or physical, historic, current, or futuristic, and they can emphasize the stimuli to participants or the responses of the participants. They can be used in a variety of ways, such as for research, performance assessment, training, and team building. They are frequently used to improve human performance, hence their popularity with trainers in different areas of the business world.

The field is well supplied with a wealth of publications, a well known quarterly journal, *Simulation and Gaming: An International Journal of Theory, Practice, and Research*, and very active national and international professional associations. One very helpful and widely used resource for intercultural trainers is the two-volume *Intercultural sourcebook: Cross-cultural training methods* by the mother and daughter team of Sandra Fowler and Monica Mumford. There is also plenty of material available on the Internet, such as an interesting and relevant article by S. Thiagarajan, *Four misconceptions about simulation* (2001).

Why do simulations and gaming go so naturally together? Activities that are interesting and enjoyable are remembered more easily, and games of all kinds are a very common form of human activity. We seem naturally to be competitive and to enjoy playing and doing imaginative or pretend activities, and games are certainly a familiar medium for learning. “Play, more than any other activity, fuels healthy development of
children—and, the continued healthy development of adults” (Perry et al., 2000). Thus it is an easy step to combine simulation and gaming, and in so doing, provide the participants with a shared experience, which can then be reflected upon, analyzed, and discussed together afterwards. Susan El-Shamy says, “The simulation game, however, has as its goal the reflecting of the relevant dimensions of the real-world situation, but in an encapsulated form that stresses the action that produces insight for learning “(p. 64). In other words, a trainer can facilitate an effective, enjoyable, experiential activity for a specific purpose by using a well chosen simulation game.

Specific Proposed Intervention

For the many conceptual reasons discussed above and under the very real constraints of time and money, the specific intervention used with undergraduates for the present study is a short simulation activity on cultural clashes called Barnga. This was devised by the well-known game creator and trainer, Sivasailam Thiagarajan (“Thiagi”), on April 15, 1980, while he was confined to a compound by rebel soldiers during a military coup in Liberia, West Africa. It was first published by Thiagarajan and Steinwachs in 1990. The author of the present study has previously used Barnga in business training and educational settings in the US and Japan and found it to be enjoyable and effective. Barnga is a simple, flexible, elegant, but extremely rich simulation, which has been used successfully in many training contexts and reviewed very positively by many trainers and participants. However, so far no documentation or empirical research has been found on the efficacy of this training module. Details of the
simulation and the training procedure will be discussed at length in the next chapter of this study.

People usually find Barnga enjoyable, but in the debriefing following, they also come up with a surprising number of insights in a short time. The simulation actively engages the students in a learning activity, and precisely because gaming and simulations are experiential and fun, the learning derived from them is likely to be more direct and memorable. In addition, as it’s an unusual and appealing activity, students are usually quite motivated to participate fully. The only caveat to this is that some “cool” students may feel it’s beneath them to participate in what at first may seem to be a simplistic and trivial activity.

A short review by J. VanderKloot (1991) praises Barnga and calls it “an excellent teaching tool” which is “easy to facilitate and enjoyable to play” (p. 393). In fact, VanderKloot expresses her delight in reviewing this simulation “because it is the most useful game I have found to convey cross-cultural issues, and their importance, even to mono-cultural audiences” (p. 392). She also notes that the manual and directions are complete and easy to follow, even for the first-time facilitator. Of course, the more diverse the participants, the richer the debriefing discussion will be, as the game raises awareness and allows emotional first-hand experience of personal dynamics in a multicultural society. Thus it is an excellent tool for dealing with racial and ethnic issues in the workplace or the classroom.
Summary of the Literature Review

This review of the literature has set the problem under investigation firmly in the context of the changing nature of the student population of US universities today. It has highlighted the reactions of universities and colleges to complaints of poor teaching quality, specifically of ITAs, particularly in the 1970s and 80s, but even up to the present, and it has reviewed research done on those ITAs, including research on accented speech. Further discussion centered on the satisfaction and achievement of undergraduate students when they are taught by ITAs as compared with native English-speaking TAs. Different types of programs to train ITAs were discussed, along with studies that recognize that the problem is two-sided, that classroom communication and effectiveness is a two-way process, and that the onus to improve learning outcomes does not lie only on the shoulders of the teaching assistants, but also on the undergraduates themselves. This led to an analysis of the literature detailing characteristics of undergraduate students, their developmental patterns and attitudes, and of possible models for change, along with a discussion of various ways of intervening in the developmental process to promote positive outcomes in terms of increased intercultural sensitivity and the ability to work more effectively with those of different cultural and linguistic backgrounds. A brief overview of the proposed intervention cited mostly anecdotal evidence to support this choice. More and more, the types of skills promoted by intercultural training, such as cultural awareness, sensitivity, respect, and most importantly, practical experience and abilities will be needed in universities, as both the teaching staff and the student body continue to diversify. Whatever can be done to prepare the undergraduate students of
today in this field will be highly beneficial and conducive to achieving an overall welcoming and inclusive campus climate for the highly diverse university of tomorrow.

**Hypotheses**

Even a short intercultural training session, if it is intense, enjoyable, and memorable, can have an effect on the satisfaction and achievement of undergraduate students taught by ITAs as compared with those taught by TAs.

Specifically:

1. Freshmen who participate in intercultural training will have greater satisfaction with their ITAs than those who do not.
2. Freshmen who participate in intercultural training will have higher grades when taught by ITAs than those who do not.
3. Freshmen whose instructor participates in intercultural training with them will have more satisfaction than those whose teachers do not.
4. Freshmen whose instructor participates in intercultural training with them will have higher grades than those whose instructors do not.
5. Freshmen with little intercultural/international experience will describe their first semester with ITAs in a similar way.

**Overview of the Study**

This study investigated the above hypotheses by comparing the satisfaction and achievement of approximately 950 new undergraduates enrolled in Freshman Biology at a large state university in the Southeast. Intact laboratory sections taught by TAs and
ITAs were randomly assigned to receive the treatment—in the form of a simulation and debriefing—or not, and the end-of-semester results of students in those sections and their level of satisfaction were compared. The effects on student satisfaction and achievement of having an instructor undergo the training with them were also investigated. In addition, a small ethnographic study of students was conducted to highlight and illuminate more personal aspects of the experience of learning from ITAs than can be gained from a quantitative study alone.

It was postulated that the shock value and memorable, enjoyable nature of the training session would have a measurable impact on the undergraduate students’ satisfaction and achievement because of their increased willingness to defer judgment, and on their improved flexibility and patience in working with and learning from ITAs. The aim was to stimulate first the sensory, very short-term memory, and then to have information move from short-term, working memory to the two parts of long-term memory, declarative, for factual information, and procedural, for how to do things/processes (Renn, 2005). In particular, it was thought that the use of an unusual and different kind of activity would help move the event into the episodic part of declarative long-term memory, where unusual events are stored/recalled (Renn, p. 55). As well, activating different facets of memory should have meant a greater likelihood of learning being retained. The use of multiple sections of a large first-year course, i.e., using students who were new to the university setting, made it possible to eliminate some of the potential confounding variables to give a clearer picture of the effect of the proposed intervention. This study, therefore, tested the impact of intercultural training of undergraduate students on their learning more effectively from ITAs.
Not only should such training increase students' awareness and understanding of the different cultural background and values held by the ITA in a general way, and enhance their satisfaction with the ITAs teaching effectiveness, but it should also help them achieve at least at the same level as if they had been instructed by a native speaker of English. In other words, it should help them to disregard and move beyond any accent or perceived *foreignness* of the ITAs (Tyler, 1992) and focus on the content of the course and their own learning. Beyond the research hypotheses for this study, the treatment should also help undergraduate students start to become more sensitive to hidden cultural differences in general. This can only enhance their personal growth by making them more aware of some of the implications of cultural diversity and its practical manifestations in the wider international world.
CHAPTER III

METHODOLOGY

Introduction to Research Method

A quasi-experimental factorial research design was used to investigate the impact of a short intercultural training activity on freshman student satisfaction and achievement in a first-semester first-level biology course with laboratory sections taught by international versus non-international teaching assistants. The research was conducted during the fall semester at a large state university with relatively low diversity in the undergraduate student population, but with many international graduate teaching assistants. This study examined the impact of three different treatment conditions and two different types of classes as well as their interaction as described by Schloss and Smith in their 1999 text, Conducting research (p. 173). The resulting six different treatment cells of the 3 x 2 factorial design are shown in Figure 4. As the graduate teaching assistants were present and able to participate in the intercultural training activity with their lab sections, if selected, it was also possible to see if such participation had any effect on the undergraduates’ satisfaction and achievement in the course.

<table>
<thead>
<tr>
<th>Type of Instructor</th>
<th>Class Treated with Instructor Present</th>
<th>Class Treated with Instructor Not Present</th>
<th>Untreated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Assistant (TA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International Teaching Assistant (ITA)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 4. Research design.
The dependent and independent variables in the study are as follows:

**Dependent variables:**
1) Satisfaction of freshmen  
2) Achievement of freshmen  

**Independent variables:**
1) Treatment condition:  
   a. class treated with short intercultural training with instructor present  
   b. class treated with short intercultural training with instructor not present  
   c. untreated  
2) Class taught by an ITA or a TA.

In addition, in order to strengthen the research design by triangulation, to give texture and color to the study, and to gain insights and illuminate some of the results of the investigation, a small stratified random sampling of students was interviewed individually about their experiences in the biology lab with ITAs.

**Participants**

Participants in this study were students in the large first-year biology course taught by tenured university faculty members with laboratory classes conducted by teaching assistants, both TAs and ITAs. The students taking Freshman Biology Lab. are usually freshmen aged 18-19, and for most, this was their first semester at a university and their first encounter with a graduate teaching assistant. However, some sections, especially General Biology (BIOL 1015) and Principles of Biology (BIOL 1115) included students at other levels (sophomore, junior, senior, and even one graduate
student), who were fulfilling science requirements or other electives. Sections of Biology for Majors (BIOL 1125) were mostly composed of freshmen only.

The actual number of laboratory sections for the school year was not known until the middle of August, a week before classes started. Approximately the same number as the previous year was anticipated. In 2005-6, there were 60 sections of Freshman Biology with 20-26 students per class, making a total of 1,383 students. However, according to the university’s Office of Institutional Research, in the fall of 2006, when this study was conducted, the total number of Freshman Biology students enrolled at the beginning of the semester was only 1,238 with 56 laboratory sections in all. Of the total number of 26,371 students on campus in the fall semester, 5,988 were freshman. Of these, 820 were officially registered as freshmen in the College of Science. Only 949 of the 1,238 Freshman Biology students at the beginning of the year were actually freshmen. There is a discrepancy in numbers, because students from other colleges within the university may take science courses, and in many instances are required to take at least one physical science course to meet the general education requirements. The gender breakdown is summarized in Table 1 using mainly data from the Office of Institutional Research.

The percentage of female students in the total university population was 40 %, but for the College of Science, it was 62.5%, and for first-year students taking Freshman Biology it was 65.8 %. This indicates that the population sampled was specific in terms of gender only to those taking Freshman Biology and not the same as for the College of Science or for the university as a whole.
Table 1

*Summary of numbers of undergraduates by gender in fall, 2006*

<table>
<thead>
<tr>
<th>University Students</th>
<th>University Freshmen</th>
<th>College of Science Freshmen</th>
<th>First-year Biology Freshmen*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>15,336</td>
<td>3,380</td>
<td>311</td>
</tr>
<tr>
<td>Females</td>
<td>11,031</td>
<td>2,608</td>
<td>509</td>
</tr>
<tr>
<td>Unknown</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26,371</td>
<td>5,988</td>
<td>820</td>
</tr>
</tbody>
</table>

* Data from Background Survey of Undergraduates conducted for this study

The same is true of ethnicity which is summarized in Table 2, again using figures and nomenclature supplied by the Office of Institutional Research, except as noted.

Table 2

*Summary of ethnicity of students in fall, 2006*

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>University All levels</th>
<th>College of Science Freshmen</th>
<th>First-year Biology Freshmen*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>1,149</td>
<td>32</td>
<td>18</td>
</tr>
<tr>
<td>Indian</td>
<td>70</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Asian</td>
<td>1,655</td>
<td>74</td>
<td>69</td>
</tr>
<tr>
<td>Hispanic</td>
<td>590</td>
<td>18</td>
<td>12</td>
</tr>
<tr>
<td>White</td>
<td>18,325</td>
<td>525</td>
<td>634</td>
</tr>
<tr>
<td>Foreign</td>
<td>1,852</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>Unknown</td>
<td>2,730</td>
<td>156</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>26,371</td>
<td>820</td>
<td>770</td>
</tr>
</tbody>
</table>

* Data from Background Survey of Undergraduates conducted for this study

Classes in first-year biology are of three main types, though all cover essentially the same curriculum, with classes for Honors and Majors at the same level and going into more depth than those for other students. The second type of class is for students majoring in life sciences, who take the Principles of Biology class because it is a prerequisite or requirement for their chosen fields such as medicine, dentistry, veterinary science, dairy science, poultry science, or fisheries and wildlife. The third type is General
Biology, which is taken by students to fulfill a general distribution requirement of their university program in social sciences or other areas. The numbers of freshmen in each type of laboratory class and their percentages of that class are given in Table 3.

Table 3

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Course Number</th>
<th>Number of Freshmen</th>
<th>Freshmen as % of class</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Biology</td>
<td>1015</td>
<td>170</td>
<td>53.97</td>
</tr>
<tr>
<td>Principles of Biology</td>
<td>1115</td>
<td>459</td>
<td>80.10</td>
</tr>
<tr>
<td>Biology for Majors</td>
<td>1125</td>
<td>320</td>
<td>91.43</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>949</td>
<td></td>
</tr>
</tbody>
</table>

Laboratory sections meet once per week, with Majors signing up for three-hour classes, and others for classes lasting two hours. In 2005-6, there were four Honors sections and 17 three-hour classes per week for Majors. The other sections totaled 26 for Principles, and 13 for General students. Similar numbers had been anticipated for the 2006-7 school year, but the enrollments were somewhat less. There were in fact only two Honors sections, 17 for Majors as previously, only 24 for Principles instead of 26, and 13 again for General Biology students. This made a total of 56 lab sections, four less than the previous year.

The Freshman Biology laboratories are very busy places. Up to four class sessions run concurrently, with sections meeting from 8:00 a.m. to 5:00 p.m., with a half-day on Fridays to allow for cleaning of rooms and equipment and preparation of materials for the following week. A full-time laboratory manager works with three assistants to coordinate all this with the professor and the teaching assistants.
Although as a general rule, students usually choose their own sections for classes depending on schedule, space availability, and name and reputation of the professor and teaching assistant, most freshmen were actually assigned to classes on a first come-first serve basis according to their declared majors. This was done in the early summer, so most new students received a complete and intact schedule during orientation week or even earlier. Thus, although the population of students was not randomly assigned to groups, within the grouping of four types of student as described above, they were randomly assigned to their classes. The two Honors sections were not included in this study. As noted in the literature review (Bailey, 1984; Rao, 1993), in the past some students have avoided sections taught by TAs with foreign-sounding names, so at the university where this study took place, the names of all the teaching assistants are not made known to the undergraduates in advance of the first meeting. This is the case in subsequent semesters, when the students choose their own schedules, but it also applied to the few freshmen who had to change their schedules in the fall because of conflicts with other courses or for other reasons.

Intact classes were randomly selected to receive the treatment or not—a minimum of two for each type of instructor and treatment condition.

Fourteen student volunteers participated in individual interviews with the researcher conducted early in the spring semester, all from the classes taught by ITAs. They were selected by stratified random sampling (Schloss and Smith, p.100) from the typical freshman groups at the university in question—Caucasian males aged 18-19, Caucasian females aged 18-19, non-Caucasian students, and international students—in proportions approximating their representation in the College of Science.
Laboratory instructors were graduate students, as in most disciplines, in this case being from the Department of Biological Sciences, mostly Ph.D. candidates, and ranging in age from 22 to 35. All the TAs and ITAs at this university have the same pedagogical training, but ITAs also have to pass the SPEAK test of spoken English. In 2005-6, there were a total of 23 teaching assistants, of whom 17 were native English speakers and 6 internationals. However, in 2006-7 the total number of graduate teaching assistants had increased to 29, with teaching loads of one to three classes per week. Native English-speakers were by far the majority of this group, totaling 26, with only three internationals. The latter group had dropped rapidly in number right before the semester started, because two students thought to be in this category turned out to be born and raised in America, and another student failed the required SPEAK test of oral ability at the last minute and was not able to teach. Further demographic details of the graduate teaching assistants and some of their responses to the training exercise conducted with the undergraduate classes will be discussed later in this study.

Measure of Undergraduate Students: Prior to Treatment

Demographic survey.

A 21-item background questionnaire constructed by the researcher, the professor in charge of Freshman Biology, and the Freshman Biology Laboratory Manager was given to all students as part of the first meeting. The blueprint for this instrument, the Background Survey of Undergraduates, was based on other demographic surveys, such as those given to incoming freshman by the university, on what the literature had indicated was important in the development of intercultural sensitivity, and on the research
questions for this study. It was devised and revised over the course of several meetings, but because of its nature, pilot testing was considered unnecessary. It was placed on opscan sheets, so that it could be machine scored and analyzed. The information collected was intended to determine the comparability of the different classes, the degree of cultural adaptability of participants, and whether there was self-selection bias in sampling. This data was thought necessary to control for possible confounding variables during the data analysis. The instrument includes questions on age, gender, race/ethnic group (as per the US Census), prior experience with TAs or ITAs (This should have been none for freshmen.), nationality, native language(s), foreign language(s) studied or spoken, travel or sojourns abroad, and place of longest residence in the US. The actual questionnaire in included as Appendix A.

The initial data gathering and treatment for each laboratory section was planned for approximately 60-70 minutes during the first class session in the first week of school, in late August, 2006. In support of the goals and aims of this study to increase multicultural, specifically international, interaction skills of undergraduates, the professor had agreed for this activity to take place during the first week of the school year. This meant that those classes not selected for treatment would have to do another activity which would not count towards their grades, and that those who did not wish to participate would be excused without penalty. In addition, upperclassmen were not asked to participate in the study, but were permitted to join in the training activity with their class if they wished to do so. Quite a few did, probably just out of curiosity.
Measures of Undergraduate Students: After Treatment

Course evaluation.

The first dependent variable, satisfaction of the undergraduates, was measured by their responses to the standard university-wide end-of-course evaluation questionnaire, which includes questions on student satisfaction with the course and the instructor. This instrument, which is rather similar to those used by many universities for end-of-course evaluations, is usually referred to as the SPOI--Student Perceptions of Instruction. It has been in institution-wide use for over 25 years, but nobody in the current administration seemed to know anything about its origins or about any reliability and validity data on it. The one change which was remembered was the addition of a question about the gender of the respondents, currently Question 15. However, further inquiries after the first disclaimers, led to an ex-employee of the University Test Scoring Center, now living in retirement in Arizona, who in turn directed the researcher to an unpublished dissertation from 1976 which had been sent to remote storage.

This study by Edith Houston Carter, who was Director of the Office of Institutional Research at New River Valley Community College at the time, investigated the extent of agreement in evaluations of 60 professors at two universities and a community college in south-west Virginia. Students in 120 courses (a matched pair by each instructor) used three different types of instruments. Carter was particularly interested in summated ratings based on student-constructed questionnaires, so one of the instruments was of this type, developed as part of her research. This was used as the basis for a report made to each instructor for the purposes of improving instruction and is the forerunner of the SPOI in use today. Carter noted that evaluation items chosen most often
were those "which students relate directly to the learning process and the way they view
the instructor as oriented to the student" (p.67). She concluded, "Findings from this study
show a consistency of ratings by students no matter what instrument is used" (p. 72).

Although the terms reliability and validity are not used as such in Carter's
dissertation, that is what she was testing. The first part of her Report to Instructors Form
(p. 110) based on the student-constructed questionnaire, is almost identical to the first
part of the current opscan evaluation. The actual SPOI is reproduced in Appendix B.

Incidentally, the university is in the process of switching to a currently optional
on-line electronic evaluation of classes, but there is great concern by teaching faculty that
the response rates by students will be extremely low. For this reason and for the purposes
of this study, it was decided to have Freshman Biology students do the paper-based SPOI
for the fall, 2006 semester. Although all the data were examined generally, the responses
to the seventh question on the overall rating of the instructor were used as the measure of
satisfaction.

*Grades in biology laboratory course.*

The second dependant variable, achievement, was measured by using the actual
end-of-semester grades in the first-year biology laboratory course, although, as noted
already, these only approximate understanding or learning. The grades are assigned by
the individual instructor according to general guidelines worked out in the Department of
Biological Sciences. The grading scale is shown in Table 4.
Table 4  
*Numerical grade ranges for letter grades in Freshman Biology*

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numerical Range</th>
<th>Letter Grade</th>
<th>Numerical Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 - 100</td>
<td>D+</td>
<td>67 - 69</td>
</tr>
<tr>
<td>A-</td>
<td>90 - 92</td>
<td>D</td>
<td>63 - 66</td>
</tr>
<tr>
<td>B+</td>
<td>87 - 89</td>
<td>D-</td>
<td>60 - 62</td>
</tr>
<tr>
<td>B</td>
<td>83 - 86</td>
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<td>C+</td>
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<td>C</td>
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Note: There is no C-, and grades that would otherwise receive that letter are included in the C range.

*Individual interviews.*

Audio interviews for the selected freshmen were conducted using a set of questions relating to their experiences with ITAs and the Freshman Biology course. Over the course of the interviews, the questions were modified slightly in reaction to the responses of the first few students and in relation to the emerging themes. The interview guide is included as Appendix C.

*Measure of Laboratory Instructors: Prior to Treatment*

*Demographic survey.*

Like the undergraduate students on the first day of classes, all the ITAs and TAs completed a demographic questionnaire, the Background Survey of Graduate Teaching Assistants, on machine readable scoring sheets. The questions are very similar to those on the undergraduate survey with several added questions on the teaching experience of the graduate students. A copy of this researcher-made instrument is provided in Appendix D.
Materials

As mentioned in the previous chapter, the intercultural simulation, *Barnga*, by Sivasailam Thiagarajan (Thiagi) and Barbara Steinwachs (1990) was chosen as the treatment for this study. This simple, elegant, short, but extremely rich and productive simulation has been used successfully by many intercultural trainers in the business field in the last 15 years and is often viewed very positively by participants and trainers alike. For example, VanderKloot (1991) calls it “an excellent teaching tool” (p. 393).

There is much anecdotal evidence regarding *Barnga*, such as the following three reviews posted to the amazon.com web site as to the effectiveness of using it to basically ‘shock’ participants into the realization that people of other cultures often operate by hidden or not obvious rules and assumptions and that we must try to withhold judgment and not disrespect others in order to work cooperatively together. Juliann Smith, a student from California, described her experience on the web site on February 16, 2000:

I was first introduced to BARNGA by playing the game at a diversity conference held in the Bay Area, CA. I was surprised at how ruthless and unforgiving I was to the people who entered my little community. I made them play my way and never took the time to understand their point of view or the rules that they knew. I am a student, 18 years old and I wish this concept had been introduced to me earlier. I didn’t think that I had any prejudices but I do and BARNGA made me realize them.

On May 2, 1999, a professional trainer from Michigan wrote:

*Barnga* is what I call a simple yet elegant learning tool. Though the title of this simulation-game suggests that it is a simulation on cultural clashes, one can feel free to define the term “culture” quite broadly. I have used *Barnga* for years to help groups understand cultural diversity issues, conflict resolution styles, mental models and paradigms, and most recently the human responses to change acceptance. If you are a business/O.D. consultant, H.R. professional or a manager charged with helping a group of people to become more effective, *Barnga* is likely to be one of the best learning tools you’ll ever own!
Additionally, a college professor from Daytona Beach, Florida, enthused on January 27, 2001:

I'm a college professor who also does diversity training. I use BARNGA in my corporate trainings as well as in my college classroom. Everyone loves it! The simulation is an excellent way of driving home the idea that every environment (an institution, a business, a classroom) has unwritten rules that we assume have been communicated to the uninitiated. When the new person experiences problems, we all too often attribute the problem to a lack of skills rather than to a lack of knowledge about the “rules.” This game is a great deal of fun and allows the facilitator to engage the participants in some serious discussion afterward about diversity. Excellent! Get it today! You won’t be sorry.

Although *Barnga* is mentioned in several collections of training materials and in the reviews cited above, surprisingly, so far no documentation or empirical research has been found on how consistently effective this training module is. Requests to the creator of *Barnga*, Thiagi, and to its publisher, The Intercultural Press, for information on any research done on the simulation were unsuccessful, as were library and Internet searches. The author of this study has previously used it with college faculty and students, high school students, and business people in the US and Japan and found it to be highly enjoyable, memorable, and effective in helping participants to see the need for more patience and tolerance when working with others who might be operating from a different set of assumptions and a partly or entirely different world-view. As a certified teacher and experienced intercultural trainer and consultant in business and education, she therefore conducted all the intercultural training sessions herself, so as to provide as much consistency as possible in the treatment.

*Barnga* involves the playing of a simple card game in the form of a tournament, usually in groups of four players. Most times this division into groups worked well, as the students had naturally seated themselves where the laboratory seats were—four to a
bench. Occasionally one group was made up of three or five students, but the students sorted things out themselves and modified the number of tricks in each round or the number of cards accordingly. However, on three or four occasions, when a single student seemed unhappy or uncomfortable with becoming the fifth at a table, that student was asked to be an assistant and help with passing out papers and collecting material. While the others were learning and practicing, the “odd man out” was secretly asked to observe the players carefully during the tournament, in order to comment during the discussion at the end.

To emulate real-life situations with communication difficulties, players may not communicate orally or in words—they must use other means. Once the players have learned the game, the timed tournament begins. After one round, the player from each table with the highest score moves to the next (numbered) table. After another round, the player with the highest score again moves to the next table. Individuals usually like to keep track of their own scores, or one person scores for the table, but the no-talking rule must be strictly enforced. Depending on time, another round or two may be played, with the high scorer moving up each time. Playing at least three rounds yields the best results. Because of the time constraints we were under, after learning and practicing the game, we were only able to have three timed rounds in the tournament, each four minutes in length.

Unbeknownst to the players (at first), the rules at each table are different, and this simple fact causes waves of confusion, strong emotion, attitude change, nervousness, and ultimately, relief and laughter as the truth dawns. By experiencing first-hand such affective changes, students gain some insight and understanding of the situation of international and culturally diverse students. An immediate debriefing and discussion
should guide them to increased empathy, willingness to withhold judgment, more positive attitude towards international students, and the realization that effective communication involves active, sympathetic, and patient efforts by both parties involved.

The official description of Barnga as published by the Intercultural Press is:

In Barnga participants experience the shock of realizing that despite many similarities, people of differing cultures perceive things differently or play by different rules. Players learn that they must understand and reconcile these differences if they want to function effectively in a cross-cultural group. Participants play a simple card game in small groups, where conflicts begin to occur as they move from group to group. This simulates real cross-cultural encounters, where people initially believe they share the same understanding of the basic rules. In discovering that the rules are different, players undergo a mini culture shock similar to actual experience when entering a different culture. They then must struggle to understand and reconcile these differences to play the game effectively in their “cross-cultural” groups. Difficulties are magnified by the fact that players may not speak to each other but can communicate only through gestures or pictures. Participants are not forewarned that those at each table are playing by different rules, so they struggle to understand why other players don’t seem to be playing correctly. By processing feelings and emotions aroused by the experience and discussing these and analyzing them with other participants, they gain insight into the dynamics of cross-cultural encounters.

(Intercultural Press, 1990)

Some of the main features which make this simulation effective for the educational setting are that as few as nine players--or very large groups--can play it. The biology laboratory sections with as few as nine and up to 26 students provided a good number of participants, without creating undue difficulty with logistics. The activity is simple to conduct, requires minimal equipment--packs of regular playing cards, photocopied sheets, a timer or buzzer, and numbered tables, desks, or benches on which to play--and both game and debriefing can take as little as forty-five minutes.

Not only is Barnga enjoyable, but many people say it yields a surprising number of insights in a short time. Of course, the more diverse the participants, the richer the
debriefing discussion can be, as the game raises awareness and allows emotional first-hand experience of personal dynamics in a multi-cultural society. However, even in a largely monocultural group, such as the university freshman biology classes selected to be the sample, it can be highly effective. Many intercultural trainers speak of it as an excellent tool for dealing with racial and ethnic issues in the workplace or the classroom.

The advantages of using Barnga were that it was short, memorable, and it actively engaged the students in a learning activity. Gaming and simulations are experiential and fun, so the learning derived from them may be more direct and memorable. In addition, the card-playing tournament activity was thought to be more fun for students than filling out another questionnaire, watching a video, or analyzing various intercultural incidents and discussing them in an academic fashion, so they would be more likely to participate fully. However, it was also recognized that some students would not want to join in what at first might seem to be a trivial activity with no clearly relevant goal—at least one not clearly related to biology!

Procedure

Assignment of classes.

Prior to the start of the new school year, the researcher met with the first-year biology professor and laboratory coordinator to randomly assign intact classes to the different treatment conditions. The unit of analysis for the main part of this study is the class, whereas for the small ethnographic corollary study, it is the student.
Meetings with instructors.

The researcher also attended the meeting of all instructors which takes place each year on the Friday preceding the start of school. At this meeting, the research was explained to the instructors and their cooperation solicited. As far as possible, any questions they had were answered fully, though the contents of the training exercise, referred to as the *guest activity*, were not disclosed, as some of the TAs and ITAs would be participating in it. To save time the following week, all the instructors filled out the Informed Consent Document (Appendix E) and the Background Survey of Graduate Teaching Assistants at this meeting.

After the first week of classes, the author attended another meeting of the instructors to hear their feedback and comments and to thank them all for their help and cooperation.

Treatment.

The first laboratory class of the school year for all first-year biology students was utilized for this research. The first 15 minutes in each section was needed for Biology Department “housekeeping” and organizational/logistical matters. At that point, if the group had been selected for the training activity, the author was introduced to the class by the TA as a researcher, and the project was explained in fairly general terms. The Informed Consent agreement for participants was carefully explained, and students were assured of their anonymity and that confidentiality would be maintained. It was made clear that participation was voluntary and emphasized that students participating in the research would not receive bonus points or penalties for participating in the *guest activity*. Then all students who agreed to voluntarily participate signed the Informed Consent
Document and filled out the appropriate Demographic Background Questionnaire. This took approximately 15 minutes. Instructors of classes not assigned to receive the treatment explained there was a research project in process and that their students were being asked to participate only by filling out the demographic survey after the Informed Consent Document had been signed. They then proceeded with another laboratory activity which did not count for a grade. Copies of the Informed Consent Documents were later returned to the students for their records, with the originals being stored securely by the researchers. Only 11 students declined to participate at all.

The *Barnga* simulation and debriefing/discussion took roughly 50 minutes to one hour, with approximately 15 minutes leeway. The researcher took brief notes during the play of the game and during the discussion period. All the note sheets used by the students to draw diagrams and score were also gathered and retained after each class for later examination. Two of the intercultural training sessions were recorded on video for later reference and review. The students in those sections signed an additional Informed Consent Document for photo and video permission (Appendix F). Unfortunately, because of difficulties obtaining the video equipment when it had originally been reserved due to schedule changes, these were the last two classes to receive the intercultural training. As well, there were some technical difficulties, so only a minimal amount of usable video footage was obtained.

The plan had been to do six or seven training sessions per day, one in each of the available slots for Monday through Thursday, and one in each of the three laboratory class times on Friday, i.e. using the whole of the first week of classes. Unfortunately, on the very first day of the new school year, the day this research was due to start, there was
an escaped prison inmate at large in the vicinity of the campus. He was reported to be armed and dangerous, and, naturally, rumors were rampant. Towards the end of the second training session, a few students were starting to get distracted, as they were receiving text messages and phone calls from friends relaying what was in the news. And what was in the news, or at least on the grapevine, was very alarming! The gunman was reported to be on the campus itself, and in the student center. He had apparently escaped during the night from police custody while being treated at the emergency room of the local hospital for a fairly minor injury. He had already killed two police officers and wounded a third.

Official word came to us that we should continue classes as normal, but not let anyone leave the building until further notice. There was nothing to be done but to continue as planned. By the time the third training session was almost done, it became clear that things were more serious than at first thought. There was reportedly a hostage situation in progress in the student center; classes were suspended for the day; and students living on the north side of campus were to be dismissed to return home directly and immediately. All others were to remain in the building in a lock-down state until further notice. By 12:45 p.m. we were allowed to leave, but those living near the south side of the campus were unable to go home until the late afternoon, after the escapee had been captured without further incident or injury.

What did all this excitement mean for the freshman students and for this research study in particular? Quite likely it was the most memorable event of the fall semester, especially for new students. It overshadowed everything else that happened at the beginning of the school year. The schedule of intercultural training in the Department of
Biological Sciences was disrupted; the students who had participated that first Monday morning were naturally very distracted and understandably nervous once they heard some of the rumors; and several sessions had to be conducted the following Monday afternoon to make up for the ones that had been missed. As well, the change in schedule meant that one of the Majors classes that had originally been supposed to have the training was unable to participate. Despite the difficulties, over 6 class days a total of 29 groups had the treatment in the form of the Barnga simulation and debriefing, and 27 did not. After each training session, students were asked not to discuss the contents of the guest activity with others until the following Tuesday and were thanked warmly for their cooperation and participation. In addition, all students who took part in the training exercise received a copy of the handout, *The Green Banana* (Appendix G) as a thank-you, with a brief comment from the researcher saying she thought it to be a profound piece of writing and that she hoped they would all read, contemplate, and enjoy it.

*Ethnographic study.*

For the ethnographic study, 18 freshman students were selected randomly from sub-groups based on the Demographic Background Questionnaire completed in the first laboratory session, that is, by stratified random sampling (Schloss and Smith, p. 100). The groups were Caucasian males aged 18-19, Caucasian females aged 18-19, non-Caucasian American students, and international students in approximately the same proportions as students in the College of Science, i.e., 6, 8, 2, and 2 students respectively. There were some technical problems associated with using a computer-generated random number selector, so in the end, in the interests of time, a ‘low-tech’ method was used. Identification numbers for all the students in the ITA-taught classes were placed on small
pieces of colored paper according to the strata described above and put in a large container, and the author then randomly selected the students to invite by drawing from the container.

After selection, students were contacted by email with an invitation (Appendix H) to participate, so that the planned 12-15 interviews could be conducted as early as possible during the second semester of the school year. The response was not very good, so another round of students was selected and contacted, and reminders were also sent to all of those selected the first time. This time the response was much better, and 14 interviews were arranged and conducted over a period of two weeks.

The recording sessions were begun by asking students to sign an Audio Recording Informed Consent Document (Appendix I), a copy of which was later returned to them. Following a short voice level test, the interviews were digitally recorded using Audacity software, a very good, free, open source software program for recording and editing sounds. A Microsoft Windows version of Audacity was used in a PC recording booth at the university’s new Media Center. The questions were the same for everyone, mostly open-ended, with occasional follow-ups and probes. There was slight modification in the questions over the course of the interviews. For example, a question on how to make the laboratory classes better was changed to one asking for advice for incoming freshmen. Notes were also made by the researcher to add to the material for later analysis. After the recordings were completed and copied onto back-up CDs, the interviews were transcribed and analyzed for common themes using a color coding system. This was according to the methodology of “identifying, coding, and categorizing the primary patterns in the data”
described in Michael Quinn Patton's text, *Qualitative evaluation and research methods* (1990, p. 381).

Apart from the demographic data obtained by questionnaire from the participating undergraduates and all teaching assistants at the beginning of the study, no identifying information was collected. Both the anonymity and confidentiality of the participants was protected, and all data was kept securely in locked cabinets when not in use.

Collection, clean-up, sorting, and filing of all the data to get it ready for analysis took approximately six months, as many follow-ups and reminders had to be sent, especially when information was needed from many different sources. Although the graduate teaching assistants were very willing and cooperative, and the laboratory manager and her staff were unfailingly cheerful and helpful, it would have been simpler and certainly time-saving, had all class lists and grading sheets been obtained directly from the laboratory manager in standardized format early on, rather than from individual instructors. Nevertheless, it was finally time to proceed to the next step—the data analysis.

*Quantitative data analysis.*

In order to uncover how intercultural sensitization training of undergraduates impacts their satisfaction and achievement when taught by ITAs versus TAs, the large amount of data gathered was analyzed using Excel spreadsheets and the SPSS statistical package. In addition, the Test Scoring Service at the university was able to provide preliminary data on all the optically readable surveys, which was a great help. Other data was obtained from the Office of Institutional Research.

Because there were two dependent variables and several independent variables, a multivariate analysis of variance (MANOVA) was conducted to test the effects of the
experimental and control conditions, the different instructors, and whether the participation of the instructor had an effect or not. However, because of the very different numbers of classes in each of the cells of the research design, that is, because it was extremely unbalanced, it was decided to conduct t-tests and ANOVAS to clarify the findings. Further details and results of both the quantitative and qualitative data analyses will be given in the following chapter.
CHAPTER IV
RESULTS

Introduction

Quantitative and qualitative data of different kinds were collected over the course of this study from a variety of sources. The results of each will be detailed separately before a brief overview is given.

Demographics

Freshmen.

A total of 823 freshmen completed the Background Survey of Undergraduates during their first laboratory sessions, but 53 were unusable, mainly because the students withdrew from the biology course. As well, a few instructors missed having their classes fill out the survey, and in some cases, individual students were just not present during the first week of the school year. In all, 141 of the freshmen who completed the fall semester of biology laboratory classes did not complete the background survey. Thus there were 770 usable surveys: 409 from the 29 classes receiving treatment and 361 from 22 classes in the untreated group.

As the survey had been placed on a special sheet for optical scanning ("opscan"), it was machine scored by the university Test Scoring Service, with frequency counts, mean scores for most questions and standard deviations returned in tabulated form for each class. These figures were then examined for large differences or patterns in the data. Since the unit of random assignment for the study was intact classes, it was thought
possible that those classes might differ systematically from each other; hence the initial intention of collecting demographic and background data to check for significant inter-group differences. Although it was originally believed that the students selected their own class sections, in fact, they did not and were randomly assigned during the summer, so it was therefore not necessary to control for any sampling bias, by looking at the means of demographic characteristics, noting any statistically significant differences, and correcting for these. However, some descriptive statistics have been included to describe the characteristics of the sample.

As expected, the freshman students in the sample were mostly 18- and 19- year-old Caucasians with just a small number of internationals and others. The maximum number of internationals and non-Caucasians in any one class was five and the minimum was none. Females outnumbered males by a ratio of approximately three to two, and about two thirds of the total number were from Virginia. Most had studied some foreign language in high school, but hardly any spoke a foreign language fluently, except for the internationals and a few first-generation US citizens. The internationals were mainly from Asia--Korea, China, and India, but there was also one Russian and one Ethiopian. Students had generally traveled very little outside the US, and very few had hosted an international student, or taken more than two courses with an international focus in high school. In other words, they generally had a rather provincial, geographically and culturally limited background and had had very little exposure to internationals before attending university. However, roughly half of the Virginians had attended high schools they characterized as having somewhat diverse or diverse populations in the Norfolk/Virginia Beach/Chesapeake, Roanoke, Richmond, or Northern Virginia areas.
Laboratory instructors.

The Background Survey of Graduate Teaching Assistants was also on an opscan sheet for ease of analysis. Of the 27 instructors, six were non-Caucasian: three international females and three U.S. male citizens. Those in the former group were from Mongolia, Korea, and China, and those in the latter group were Asian-American, African-American, and Hispanic-American respectively. There were 16 females and 11 males, with almost all 22-25 years of age, though two were between 30 and 35 years old. Like their freshman students, most also had rather limited geographic and cultural backgrounds, except for the internationals and two others who say they are fluent in Spanish.

Training

A large amount of information was gleaned from observing the behavior and facial expressions of the participants in the training sessions, that is, during the actual playing of Barnga. Once students could talk normally again, their reactions to the activity and comments during the discussion which followed were also very revealing. In addition, further information was obtained from diagrams and other jottings students made on the note pads provided at each table, and from the notes made by the researcher during the activity itself, the debriefing, and shortly after.

Questions.

Once the research study and guest activity had been explained in general terms, most of the students seemed quite amenable to participating and eager to get started. The name Barnga and the words simulation and game were carefully avoided when referring
to the whole activity in the presence of students. There were very few questions, except for those pertaining to how the tournament would proceed. One student wanted candy as an incentive to win, a couple of others suggested receiving payment in the form of candy for participation, and one student quite persistently asked several times why we were doing the whole thing at all. Although the researcher explained several times that we were gathering information to ultimately help improve the teaching and learning in Freshman Biology, he did not seem satisfied with the response, as he wanted to hear the explicit purpose. Nevertheless, he seemed happy enough to sign the consent documents and participate in the activity,

Scoring.

In order to keep score during the tournament, students had to ask the names of others at the table, and most did just that. However, at some tables, the students didn’t use personal names and just divided the score pad into quadrants, or gave people numbers or letters to differentiate them. Others wrote G₁, G₂, etc., for first girl second girl, and so on at a table, and still others merely used the impersonal pronouns, her and him, with me doing the scoring.

Non-verbals.

Once the card game had been learned, the rules were taken away, and the students had to communicate without words, i.e., with non-verbals. They did this in many ways to try to get others to understand them. They drew diagrams of the various card suits with arrows or check marks and crosses to try to explain what was happening. They also used rolled eyes, raised eyebrows, smiles, quizzical and questioning looks, nodding or shaking of heads, tapping on cards or waving certain cards in the air or at another person, pointing,
even pounding on the table, snatching or grabbing cards, and writing over what the original scorer had written. A couple of students got quite red in the face and angry-looking. One got up & started to walk away from the table in the third round, and one Caucasian male (CM) exploded with anger and annoyance when others were taking his tricks away from him when he thought he'd won.

Debriefing.

Debriefings after simulations are a time for processing-a time to reflect together on the experience everyone has just shared, to review what happened, and to discuss what it all means. This contrasts with real life situations, where we may share an experience and then just go our separate ways, without always knowing what was really going on. It's a natural sequence for the discussion to move from a quick review of the steps in the activity, to a description of what happened, how people felt and what they experienced, and then to proceed to an analysis, analogy, and application phase, in which participants relate the game events to real-life situations. These parts of the discussion are also sometimes described by trainers as the affective and cognitive phases, the former being a time to clear the air and share emotions and feelings that occurred during the simulation, and the latter being the time to systematically analyze what was really going on, to process experiences, generalize about cultural conflicts and communication problems, think of analogies, and suggest real-life applications.

The following section gives some of the eagerly offered and extensive feedback elicited from students during the affective phase of the debriefings held at the end of each intercultural training session. Feedback from the cognitive phase will be incorporated into the final chapter of this study.
Timing and play.

Because of time constraints, the card game tournament had to be played in a fairly abbreviated version, with only three rounds of four minutes each, instead of the more commonly played four rounds of five minutes each. It was only possible to have 15-20 minutes for the debriefing afterwards, whereas with no time restrictions, animated, engaged discussions might easily last twice that length or longer. Students said they “felt time pressure,” and were “hurried,” or “rushed” with “not enough time” to plan strategy and consider the next move. One student commented, “It seems like there were glitches in the game,” and others thought the “game was boring because we didn’t have face cards.” One male student said, “The small number of cards was a constraint, so it was easy, fast, and kind of dumb at the beginning, but at the end [I] used more strategy.” This particular student said he had felt the same at a new table and had done badly, so he thought, “I might not have read the rules right.” Someone else added, “What’s the point? I don’t understand the point. I’m used to playing card games with strategy!” One student enthused, “I felt good with high cards!” and another student commented that if you “conformed to the rules, you could do OK, though it was really “an annoying version of spades.” Someone else who felt they had been bad at the game used the evocative expression, “got skunked!” to describe what happened.

Not talking.

Not being permitted to talk during the tournament, affected different students in different ways. Many students said it was really hard and very frustrating not to be able to communicate easily and comfortably. It was apparently particularly frustrating when they wanted to explain something to other people but couldn’t get them to understand. Other
students said it felt “weird at first,” or “weird to play without talking,” and it made them uncomfortable and took a while to get used to, so they got more and more frustrated. One female student commented on the contrasting situations, “it felt weird not talking and now talking,” whereas a few others just said they were not happy about the game in general, and in particular, not happy about the ban on talking. One participant thought using gestures “felt like 50 million years ago,” but several others commented that it helped them “notice things about other people,” such as whether they were “quiet, or reserved, or nice.” Some students said it was “much less fun when you couldn’t talk,” whereas others thought it was “hilarious” or “funny that you couldn’t talk” and reported enjoying observing their classmates and feeling amused by the situation.

Many students said they’d “had a problem deciding who won at the table” and that it was “confusing at first.” Quite a few groups quickly agreed on the rock, paper, scissors gestures game from Japan for deciding a winner, or pointed to themselves with questioning looks, nodding, or shaking of heads. One young woman said she had been really frustrated at this point as “everybody else seemed to know what was going on.” However, she proudly added, “I adapted quickly!” This was not the case with a fellow student who tried to ask a verbal question, and on getting the response “No words!” from the trainer, used quite a loud expletive. She said later she had felt very angry at that point. She was certainly not alone in her frustration, for it seems that generally many participants felt challenged and stymied, even handicapped, by not being able to talk. However, many of them were able to convey clear messages in other ways. For example, a sketch drawn by a student during the playing of Barnga is given in Figure 5. This was done in response to another student not following the rules at that table.
Although many of the remarks made by students in the first part of the debriefing refer to all rounds of the tournament, to aid in understanding, comments specifically dealing with particular rounds will be given before some more general observations.

**Tournament round # 1.**

After the students had learned and practiced the game, the first round of the timed tournament took place with students playing at their home table. Later, several said they had felt quite attached to this group. “Winning [and having to move to the next table] felt like getting voted off the island” moaned one young woman in reference to a then-current reality TV series. Others said they felt fine in their initial group, and playing there didn’t seem especially strange or funny, even though they weren’t able to talk to each other.

One student said she felt lucky because she was winning, but others attributed winning to

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*Figure 5. Sketch drawn by an undergraduate during the Barnga tournament.*
their own skill at cards. No matter how they’d won, most of the participants who moved to another table during the tournament said that they missed the first table and their original fellow players. They felt they had connected and had bonds with their home group. One student summarized neatly, “At my home table I felt comfortable. I knew their names, and we were playing by the same rules.”

*Tournament round # 2.*

As the winners of the first round had each moved to the next highest-numbered table for the second round, there was one new person at each table and three who had learned the game together and already played one round of the tournament as a group. The newcomers, male and female, later reported they “didn’t know the new table, and didn’t understand them” or similar sentiments. One Caucasian male (CM) said what happened next was “amazing,” and one female student admitted she “didn’t know what was going on, got mad with others, but then tried to figure things out.” Other participants reported feeling bad, hurt, sad, or outnumbered. One student said sadly, “They didn’t care about me and tried to enforce their own rules.” Another female concurred wistfully, “We were having fun at [our] home table, then unity got broken …at the new table they didn’t play the same. It made me scared of the competition. They didn’t know the rules.” Someone else was “sad to go to a new table” because you “missed your own buddies.”

Several students who had moved, especially males, reported starting out very confidently, getting more and more confused, and then giving up, thinking the other three players “had all read it wrong.” Other participants said they “felt pretty stupid when they moved to a new table,” and “uncomfortable,” or “lost after moving.” Many said they felt really confused, but then “stupid and embarrassed,” or “dumb.” Several said they were
surprised, but then became angry, and some said they felt really "angry at the people who were winning." One Caucasian female (CF) shared that that she had "felt pressure" and was "nervous" about playing at the new table, but then she began to feel aggressive. Others reported that the three players at their home table were aggressive and that as the newcomer they had "no way to win," so they became "passive."

"When it was one against three, they looked at me more and more weird," lamented one student, so "I felt I was winning unfairly." Then, "I thought I’d misread the rules." Someone else contributed that they had just been at a "lucky corner of the table," but another student complained that "losing after winning sucked!" The most frequent comment, along with confusion and frustration at the communication difficulties, was "I thought I’d read the rules wrongly."

Students adopted several strategies to deal with the situation. Many reported giving up because they missed their home table and "just didn’t know what was going on." When there was a confrontation, one CF admitted, "I let them have their way, so as not to disrupt the chemistry at the table." Another groaned, "I gave in, [because] they all looked at me really weird." Somebody else shared that she had felt "scared and thought the others were unkind." "Yeah, the outsider at the table" was an anonymous response by a male voice. Another CF proclaimed she had "liked winning," but it was "different when [I]moved and got beaten... [I] thought it was just a ‘luck’ thing." When asked how he had handled any disagreements during this round, one CM said "Whatever... I bullied them with the cards...maybe he [another player] was mad, but I didn’t care because he was confused." Someone else disagreed, "It seemed like they weren’t confused--they tried to steal my cards. It made me mad, so we argued a few times." One student
disagreed completely and bluntly stated, “I liked the new table better, because I was more successful there.”

From the point of view of the three players who were still at their home table, things seemed rather different. One CF sympathized, “I felt bad for the [newcomer] girl. She was trying—I didn’t care about myself.” The newcomer said she had felt bad too and “thought the three at the table hadn’t read the rules right.” Another player at that table commented that he hadn’t understood what the new person was trying to do, because he was quite sure he knew exactly what the rules were. If the three-person group was unanimous about something, the newcomer’s disagreements or protests were overridden. The majority mentioned things like, “I thought he hadn’t read the rules,” or “I thought she was bad” or “How could she be so stupid?” Many of the majority players reported feeling “sure I’d read it right.” Occasionally though, someone “felt bad for the new person—not part of the group,” especially if that person was losing. A thoughtful student said this made her question what was going on. One person who had tried to be friendly reported that he’d said “Hi” to a newcomer, but then he added he was “puzzled that he [the newcomer] didn’t notice they were playing with different rules.” Sometimes the students reflected that they had first thought, “How could he/she not know the rules?” but then they had quickly switched to “I thought they were cheating.”

One CM observed that it was “tough when new people moved to your table, tried to explain, but just went with the flow.” Others who’d felt aggravated at first also just “went with the flow,” but one female student announced quite innocently, “I was confused by the game—I really messed up.” Others agreed that the tournament was “confining” and if you were “not skilled at card games,” you couldn’t do well. One CM
seemed to enjoy reporting to the group about a female student who had moved to his table. He said she had gotten really “mad, like there was a conspiracy against her or something,” that she “was too headstrong,” and “she was about to blow a gasket.” Amid laughter, the student in question agreed that she really was “getting angry,” but she also protested that the others at the table were making “mean faces” at her, and that she was especially unhappy, because they “took my cards away!” A non-Caucasian male (NCM) said he felt “intimidated with the winner from a previous table,” so he “wanted to win,” whereas a CF said she didn’t feel intimidated, and was just very competitive, really wanting to win. Far from feeling intimidated, a CM announced, “We just got rid of the non-conformist, by declaring them the winner!”

_Tournament round # 3._

With the third round of play, most, but not all tables had two players from the original group at that table, plus two others who both came from the same group at a neighboring table. With the change in group dynamics, some tried to “stare the others down,” and others “enforced the home table’s rules.” Some groups dissolved in giggling and laughter, but some students reported very negative thoughts about the opposing team or the newest person to join the group. These ranged from “I thought he was confused” and “I thought he’d made a mistake,” to “I thought he was a jerk” or “a cheat.” Someone complained loudly that “a former buddy couldn’t or wouldn’t help” and so he “felt annoyed, betrayed” because the buddy “had changed.” Those who’d stayed at the same table, however, sometimes had “no idea anything had changed” and “thought the newcomer [was] just stupid!” When the numbers were even, two newcomers against two “old hands,” it seemed most often the home table rules prevailed.
Instructors.

The researcher observed that participation by the instructors in the game was also extremely varied. Some joined in very enthusiastically, but others seemed somewhat passive and tentative, apparently no different from their students in that respect. During the debriefing, after students began to feel comfortable talking about the activity, comments about the TAs who had participated also emerged, though no remarks at all were made specifically about the ITAs, except to say it was “good” or OK” that they participated. Again, some instructors participated fully, reflecting and commenting on their feelings and reactions, just like their students, but others seemed reluctant to share or say much, although they were invited several times to do so.

Several undergraduates thought the TA hadn’t read the rules properly, or that the TA was “dumb, too, and then sneaky about it.” These comments evoked a lot of laughter, which the TAs seemed to take good-naturedly. A CM reported that the female TA gave him “dirty looks in Round #2, but then backed down.” The student said he was “mad at this.” The TA referred to looked rather surprised and then somewhat offended at this remark. Other students commented that they “felt stupid at first playing with a TA,” or “it was a bit awkward,” and they didn’t really want to move to the TA’s table. One CM said he really enjoyed observing his TA, “It was hilarious--she got mad and hated losing!”

More laughter filled the room, as the TA clearly enjoyed the recollection along with her students.

Feelings.

Some comments about feelings were given at all stages of the debriefing, so it is a little difficult to separate them according to when they were voiced, but the majority of
these were elicited as anticipated during the early stages of the debriefing. Participants had to be reminded several times not to analyze or explain at first, and just to think about and share what they felt or experienced during the course of the activity. It is therefore helpful to reiterate some of the most commonly expressed feelings and observations.

Most students agreed it was “really hard” not being permitted to talk or use words during the tournament, and they described themselves as “confused, utterly confused, frustrated, puzzled, helpless, bad, uncomfortable, stressed, aggravated, annoyed, lucky, laughing a lot, amused, restrained, sleepy, bored, laid back, and cool.” They described the whole activity as “frustrating, confusing, competitive, stressful, hilarious, fun, and better than a biology lab!”

“I felt like the dumbest person ever, I knew I didn’t understand what was going on” admitted a female participant. Other students volunteered that they had gotten more and more competitive as the tournament progressed. Quite a few agreed they had liked the competitive nature of the activity, but others were “put out if something was going wrong, worst thing, it was horrible!” Some people were “frustrated [they] didn’t win at all,” but others “didn’t want to win” and reported trying not to get into arguments, or just having a “whatever…” kind of attitude.

Summary.

In sum, there was a great variety in the responses of the undergraduate students to the whole guest activity, but some of their experiences and emotions can be summarized along the following lines, though this is by no means an exhaustive list.

1. Doubted self and own ability to remember the rules: felt stupid, dumb: “I thought I’d read the rules wrongly.”
2. Thought others weird, wrong, mean, unkind. "They were cheating; they were playing wrong; they had read the rules wrongly."

3. Thought the newcomer was stupid, dumb, hadn't read the rules properly, or was trying to cheat.

4. Felt sorry for the newcomer, but wasn't able to help.

3. Got more and more comfortable—enforced own rules and disregarded everyone else, even if they disagreed.

4. Attributed disagreements or confusion to accident, luck, chance, or thought they had "lost track or something."

5. Didn't notice anything, didn't realize anything was different, especially when staying at the same table.

6. Remained attached to the original group, or as one student said mournfully at the end, "I'm sad that it's over. I miss my old table....my old table played the right way--I liked my old table."

Feedback from Laboratory Instructors

A meeting with the laboratory instructors took place on the Friday afternoon at the end of the first week of classes. Naturally, there was quite a lot of talk about the escaped gunman and what effect it had had on students and schedule. Quite coincidentally but conveniently, the TAs scheduled to do the makeup training sessions the following Monday were not present.

Reactions from the instructors to the guest activity were generally positive, but rather mixed. The Hispanic male in the group enthused, "Wonderful! A really cool thing!"
We could’ve used it in residence halls!” Later, he continued in the same vein by describing the exercise as “Brilliant--something they all need! Invaluable!” A Caucasian female agreed, “That was fun! I learned a few things!” Someone made the point that they would have liked to rotate one more time in the tournament “to see if the outsider would have become attuned to what was going on. If there are three against one, the positions changed.”

Some TAs however, weren’t really ready or willing to be included. They said it “would have been better to prepare them ahead of time.” Others felt, “Incentives would have helped,” and “cookies, prizes, candy, and bonus points” were all suggested as possibilities. It was not clear if these were being suggested for the undergraduates, the instructors, or for everyone! One CF complained mildly, “It would have helped TAs to know if they could participate,” and confessed she “didn’t feel comfortable when an undergraduate switched for a TA.” She later added, “If certain people had been chosen to be an assistant, it would have been a disaster to have them raised in status and the TA demoted.” Another CF prefaced her comment by saying she was just pointing out it was “Ironic, as we were not prepared in advance, and the activity put the TA on the same level as the student...because we’ve just spent the entire week trying to differentiate ourselves from undergraduates!” Someone else concurred and pointed out that the “researcher even switched in an undergraduate for a TA, and that leveled the field.” Thus it was clear that some TAs didn’t really like being included and didn’t feel they should have been. Another CF confided, “I didn’t really know how much to contribute to the discussion or to express what I felt.” She continued that she didn’t say much because she
thought that “would be seeing things through the eyes of the TA and not the undergraduate.”

As a counterpoint, one female TA mentioned that she “enjoyed the activity for another reason. I got to know students’ personality, whether strong, weak, dominant, easily frustrated, etc.” Others agreed this was a useful aspect of the exercise.

After the researcher explained generally what had happened for those who hadn’t participated, she thanked the Freshman Laboratory Manager and all the laboratory instructors and gave them all a copy of *The green banana* handout which had also been given to the undergraduates.

**General Organization of Quantitative Data**

Data were examined in a general way and divided into groups according to the six cells of the research design. The main groups were the 29 classes that received treatment in the form of the intercultural training and the 27 that did not. A further sub-division was into groups in which the instructor was present for the training session or not. The number of laboratory class sections initially assigned to each numbered cell of the research design is shown in Figure 6.

<table>
<thead>
<tr>
<th>Type of Instructor</th>
<th>Class Treated with Instructor Present</th>
<th>Class Treated with Instructor Not Present</th>
<th>Untreated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Assistant (TA)</td>
<td>(1) 15</td>
<td>(2) 10</td>
<td>(3) 25</td>
</tr>
<tr>
<td>International Teaching Assistant (ITA)</td>
<td>(4) 2</td>
<td>(5) 2</td>
<td>(6) 2</td>
</tr>
</tbody>
</table>

*Figure 6.* Number of classes in initial groups.

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Satisfaction

The Student Perceptions of Instruction (SPOI) data were provided by the university Test Scoring Service. They had been collected in the last laboratory session for the semester and turned in directly, so the author did not handle them herself. At first, the data included all students taking Freshman Biology, so it had to be reanalyzed with just the freshmen. The data included class means and standard deviations for Question 7 of the SPOI, overall rating of the instructor, which was used as the measure of satisfaction for this study.

As the evaluations were done anonymously, it was impossible to exactly match this sample of students with those who completed the course and received final grades. However, the one class which did not do the SPOI was also dropped from the sample of classes whose grades were analyzed. This meant that 55 class sections were included in the data analysis which follows. Although this was all that could be done to match the numbers for the two dependent variables, based on the available information, the actual numbers of participants are still different. Only 826 freshmen from the 55 classes did the SPOI as compared with 890 from the same 55 classes who received final grades. Thus the number of classes as shown in Figure 2 was decreased by one in cell (3) to make 24 TA-taught classes which were untreated.

Class mean scores (M) and standard deviations (SD) were entered on Excel spreadsheets and standard error (SE) and standardized (Z) scores were calculated in readiness for the analyses to follow.
Achievement

Although all the Freshman Biology laboratory instructors had been asked to supply numerical grades at the end of the fall semester, only a few did, in spite of numerous reminders. It was therefore necessary to assign numerical grades to the letter grades recorded as the official grades with the Registrar's Office. This was done by assuming that within the grade ranges the grades are uniformly distributed. This is shown in Table 5.

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Grade Range</th>
<th>Assigned Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93 - 100</td>
<td>96.5</td>
</tr>
<tr>
<td>A-</td>
<td>90 - 92</td>
<td>91</td>
</tr>
<tr>
<td>B+</td>
<td>87 - 89</td>
<td>88</td>
</tr>
<tr>
<td>B</td>
<td>83 - 86</td>
<td>84.5</td>
</tr>
<tr>
<td>B-</td>
<td>80 - 82</td>
<td>81</td>
</tr>
<tr>
<td>C+</td>
<td>77 - 79</td>
<td>78</td>
</tr>
<tr>
<td>C</td>
<td>70 - 76</td>
<td>73</td>
</tr>
<tr>
<td>D+</td>
<td>67 - 69</td>
<td>68</td>
</tr>
<tr>
<td>D</td>
<td>63 - 66</td>
<td>64.5</td>
</tr>
<tr>
<td>D-</td>
<td>60 - 62</td>
<td>61</td>
</tr>
<tr>
<td>F</td>
<td>0 - 59</td>
<td>30</td>
</tr>
</tbody>
</table>

The assigned values were then entered on Excel spreadsheets, and class means, standard deviations, and individual standardized scores were calculated before any further analysis was done. A percentage probability (P-P) Plot of the standardized individual grade scores was done to check if the data were normally distributed. This is given in Figure 7.
Normal P-P Plot of ZScore

Figure 7. Percentage probability plot to test normal distribution of standardized grades.

Multivariate Analysis

The two dependent variables in this study are the satisfaction and achievement of the undergraduate students in first-year biology. The independent variables are the different treatment conditions, the different types of instructors, and whether or not the instructor participated in the treatment with the class. Before actually conducting the MANOVA, an error bar chart was made to check the standard error of the means for the two dependent variables, satisfaction and achievement, as shown in Figure 8.
Figure 8. Means of the dependent variables, satisfaction and achievement.

The long lines in this error bar chart indicate considerable variation in the data and therefore lack of homoscedasticity, which is likely to be a problem.

Nevertheless, because there are two dependent variables and several independent variables, a multivariate analysis of variance (MANOVA) was conducted as originally planned to test the effects of the experimental and control conditions, the different instructors, and whether the participation of the instructor in the treatment had an effect
or not. Figure 9 gives means and standard deviations for the six different treatment groups on the two dependent variables.

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Category</td>
</tr>
<tr>
<td>Satisfaction</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Achievement</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

*Figure 9. Means and standard deviations for the different groups. N = number of classes.*

One of the assumptions for MANOVA is that population variances and covariances among the dependent variables should be the same across all levels of the factor, so Box's Test was conducted to check this. The test for homogeneity of dispersion matrices or equality of covariance is nonsignificant, $F (6, 9,446.5) = 2.32, p = .031$. This has to be interpreted with caution because of the lack of power resulting from the small number of classes in Cells 4, 5, and 6 of the research design as previously shown in...
Figure 6. However, Levene’s Test of the equality of error variances is significant for satisfaction, $F(5, 49) = 2.95, p = .021$; but not for achievement, $F(5, 49) = 1.86, p = .12$.

Results for Box’s and Levene’s Tests are shown in Figure 10.

<table>
<thead>
<tr>
<th>Box’s Test of Equality of Covariance Matrices (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box’s M</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>df1</td>
</tr>
<tr>
<td>df2</td>
</tr>
<tr>
<td>Sig.</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a Design: Intercept+TreatCat

<table>
<thead>
<tr>
<th>Levene’s Test of Equality of Error Variances (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Achievement</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a Design: Intercept+TreatCat

Figure 10. Partial results of the MANOVA.

Because of anomalies in these results and the very imbalanced cells in the research design resulting from the much smaller than expected number of ITAs, further use of the MANOVA was abandoned, and it was decided instead to use $t$-tests and analysis of variance (ANOVA) to examine and analyze the data.

$T$-tests

An independent samples $t$-test was conducted on pooled data from all 55 biology laboratory classes to evaluate the hypothesis that the intercultural training, the guest
activity conducted at the beginning of the school year, had an effect on the satisfaction of students at the end of course. Partial results are shown in Figure 11. The test was not significant, \( t(53) = 1.62, p = .11 \). Students in the treated category, \( (M = 14,825.88, SD = 44,731.59) \) on the average did not show greater satisfaction than those in the untreated group, \( (M = 560.19, SD = 2,711.75) \). The 95% confidence interval for the difference in means was very wide, ranging from -3,375.93 to 31,907.31. The \( \eta^2 \) index indicated that 5% of the variance of the satisfaction variable was accounted for by whether a student was assigned to a treated or untreated condition. Figure 12 shows the distributions for the two groups.

Another independent samples \( t \)-test was then conducted on pooled data from all 55 biology laboratory classes to evaluate the hypothesis that the intercultural training had an effect on the achievement of students at the end of course. Partial results are shown in Figure 13. The test was not significant, \( t(53) = 1.84, p = .07 \). Students in the treated category, \( (M = 1.14, SD = 2.38) \) on the average did not have higher achievement (grades) than those in the untreated group, \( (M = -.19, SD = 3.03) \). The 95% confidence interval for the difference in means was not very wide, ranging from -.12 to 2.81. The \( \eta^2 \) index indicated that 6% of the variance of the achievement variable was accounted for by whether a student was assigned to a treated or untreated condition. Figure 14 shows the distributions for the two groups.
Group Statistics

<table>
<thead>
<tr>
<th>treatcat</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZScore</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treated</td>
<td>29</td>
<td>14825.88</td>
<td>44731.59</td>
<td>8306.45</td>
</tr>
<tr>
<td>Untreated</td>
<td>26</td>
<td>560.19</td>
<td>2711.75</td>
<td>531.82</td>
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</tbody>
</table>

Independent Samples Test

Levene’s Test for Equality of Variances

<table>
<thead>
<tr>
<th>ZScore</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>13.214</td>
<td>.001</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>t-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>t</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1.622</td>
</tr>
<tr>
<td>1.714</td>
</tr>
</tbody>
</table>

Figure 11. Independent samples t-test for means of satisfaction.
Figure 12. Error bars for satisfaction for treated and untreated groups.
### Group Statistics

<table>
<thead>
<tr>
<th>treatcat</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treated</td>
<td>29</td>
<td>1.14</td>
<td>2.38</td>
<td>.44</td>
</tr>
<tr>
<td>Untreated</td>
<td>26</td>
<td>-.19</td>
<td>3.03</td>
<td>.59</td>
</tr>
</tbody>
</table>

### Independent Samples Test

<table>
<thead>
<tr>
<th>ZScore</th>
<th>Levene's Test for Equality of Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equal variances assumed</td>
<td>F</td>
</tr>
<tr>
<td>Treated</td>
<td>1.835</td>
</tr>
<tr>
<td>Untreated</td>
<td>Equal variances not assumed</td>
</tr>
</tbody>
</table>

### t-test for Equality of Means

<table>
<thead>
<tr>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td>1.836</td>
<td>53</td>
<td>.072</td>
<td>1.34</td>
<td>.729</td>
<td>-.124</td>
</tr>
<tr>
<td>1.812</td>
<td>47.355</td>
<td>.076</td>
<td>1.34</td>
<td>.739</td>
<td>-.147</td>
</tr>
</tbody>
</table>

*Figure 13.* Independent samples *t*-test for means of achievement.
Achievement of Treated and Untreated Groups

Figure 14. Error bars for achievement for treated and untreated groups.

Analyses of Variance

The total sample was again divided into two groups, this time according to the type of instructor, TA or ITA. A one-way analysis of variance was conducted to evaluate the relationship between the satisfaction of undergraduates taught by TAs at the end of the biology laboratory course and the type of treatment they received at the beginning of the school year. The independent variable, the treatment, had three levels: no treatment, and treatment with and without the TA being present. The dependent variable was the
satisfaction of the undergraduates as measured at the end of the semester. Although Levene’s test indicated differences in group variances, $F(2, 45) = 4.28, p = .02$, the ANOVA was not significant, $F(2, 45) = 1.9, p = .16$. The strength of the relationship between the treatment and the satisfaction, as assessed by $\eta^2$ was not strong, with the treatment accounting for 8% of the variance of the dependent variable. Partial results of the ANOVA for satisfaction of TA-taught classes are given in Figure 15.

### Descriptive Statistics

<table>
<thead>
<tr>
<th>TreatCat</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>no treatment</td>
<td>.866207</td>
<td>4.5149266</td>
<td>23</td>
</tr>
<tr>
<td>Treated instructor with</td>
<td>2.270755</td>
<td>3.7903923</td>
<td>15</td>
</tr>
<tr>
<td>Treated no Instructor</td>
<td>4.554206</td>
<td>7.3222318</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>2.073461</td>
<td>5.1110675</td>
<td>48</td>
</tr>
</tbody>
</table>

### Levene’s Test of Equality of Error Variance

<table>
<thead>
<tr>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.275</td>
<td>2</td>
<td>45</td>
<td>.020</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+TreatCat

### Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>95.646$^a$</td>
<td>2</td>
<td>47.823</td>
<td>1.901</td>
<td>.161</td>
<td>.078</td>
</tr>
<tr>
<td>Intercept</td>
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<td>281.492</td>
<td>11.189</td>
<td>.002</td>
<td>.199</td>
</tr>
<tr>
<td>TreatCat</td>
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<td>1.901</td>
<td>.161</td>
<td>.078</td>
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<tr>
<td>Error</td>
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<tr>
<td>Total</td>
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a. $R^2 = .078$ (Adjusted $R^2 = .037$)

Figure 15. ANOVA for satisfaction of TA-taught classes
Follow-up was done to examine pairwise differences between the means using the Dunnett's C test, which does not assume equal variances among the three groups. As expected, there was no significant difference between groups. The 95% confidence intervals for the pairwise differences, along with the means and standard deviations for the three treatment groups are shown in Table 6.

Table 6
95% confidence intervals of pairwise differences in mean satisfaction of TA-taught classes

<table>
<thead>
<tr>
<th>Treatment group</th>
<th>M</th>
<th>SD</th>
<th>No treatment</th>
<th>Treatment with instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>No treatment</td>
<td>.87</td>
<td>4.52</td>
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<td></td>
</tr>
<tr>
<td>Treatment with instructor</td>
<td>2.27</td>
<td>3.79</td>
<td>-4.89 to 2.08</td>
<td></td>
</tr>
<tr>
<td>Treatment no instructor</td>
<td>4.55</td>
<td>7.32</td>
<td>-10.57 to 3.19</td>
<td>-9.24 to 4.67</td>
</tr>
</tbody>
</table>

Another one-way analysis of variance was conducted to evaluate the relationship between the achievement of undergraduates taught by TAs at the end of the biology laboratory course and the type of treatment they received at the beginning of the school year. The independent variable, the treatment, had three levels: no treatment, and treatment with and without the TA being present. The dependent variable was the achievement of the undergraduates as measured at the end of the semester. The ANOVA was not significant, $F (2, 46) = 1.66, p = .2$. The strength of the relationship between the treatment and the achievement, as assessed by $\eta^2$ was not strong, with the treatment accounting for 7% of the variance of the dependent variable. Partial results of the ANOVA for achievement of TA-taught classes are given in Figure 16.
Levene's Test of Equality of Error Variances (a)

<table>
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<tr>
<th></th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
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<tr>
<td></td>
<td>1.952</td>
<td>2</td>
<td>46</td>
<td>.154</td>
</tr>
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</table>

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a Design: Intercept+TreatCat

Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
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</thead>
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<td>1.661</td>
<td>.201</td>
<td>.067</td>
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<tr>
<td>Intercept</td>
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<td>11.823</td>
<td>1.475</td>
<td>.231</td>
<td>.031</td>
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<tr>
<td>TreatCat</td>
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<td>13.308</td>
<td>1.661</td>
<td>.201</td>
<td>.067</td>
</tr>
<tr>
<td>Error</td>
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<td>46</td>
<td>8.014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
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<td></td>
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<tr>
<td>Corrected Total</td>
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<td></td>
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</table>

a R Squared = .067 (Adjusted R Squared = .027)

Tests of Between-Subjects Effects

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>26.617(a)</td>
<td>2</td>
<td>13.308</td>
<td>1.661</td>
<td>.201</td>
<td>.067</td>
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<tr>
<td>Intercept</td>
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<td>11.823</td>
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<tr>
<td>TreatCat</td>
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<tr>
<td>Error</td>
<td>368.638</td>
<td>46</td>
<td>8.014</td>
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<td>Total</td>
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<td>49</td>
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<td>Corrected Total</td>
<td>395.255</td>
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</table>

a R Squared = .067 (Adjusted R Squared = .027)

Figure 16. ANOVA for achievement of TA-taught classes.
Follow-up tests were used to examine pairwise differences between the means. The Dunnett's C test, which does not assume equal variances among the three groups, was chosen. As expected, there was no significant difference between groups. The 95% confidence intervals for the pairwise differences, along with the means and standard deviations for the three treatment groups are shown in Table 7.

<table>
<thead>
<tr>
<th>Treatment group</th>
<th>M</th>
<th>SD</th>
<th>No treatment</th>
<th>Treatment with instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>No treatment</td>
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<tr>
<td>Treatment with instructor</td>
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<td>3.07</td>
<td>-4.27 to .93</td>
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<td>Treatment no instructor</td>
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<td>1.5</td>
<td>-3.03 to 1.07</td>
<td>-1.77 to 3.15</td>
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</table>

For the sake of completeness, ANOVAS were also conducted for the satisfaction and achievement of classes taught by ITAs. As anticipated, no significant differences were found, so the results will not be detailed here. Further discussion and comments on the lack of significance in any of the quantitative data analyses will be part of the final chapter of this study.

Ethnographic Study

Demographic background.

A total of 14 freshmen met with the author over a period of a little more than two weeks for individual audio interviews as described in earlier sections of this study. The
stratified random sample consisted of six Caucasian females, four Caucasian males, two non-Caucasians, and two international students. Just by chance, the last two of these groups were male and female respectively, and all 14 students were in the 18 to 19 age group. All the males and three of the Caucasian females were from Virginia, the other three CFs being from Maryland, Pennsylvania, and North Carolina.

The two internationals, one trilingual from Ethiopia and one bilingual from India, were not newly arrived in the US; they had each graduated from high schools in Virginia but had come to this country with the sole intention of attending university here, but not with the intention of becoming US citizens. The young woman from Ethiopia had spent two years at high school in Ohio before moving with her host family to a small university town in the north-western part of Virginia and completing her last year of high school there. The student from India had spent all four high school years in Fairfax County in Northern Virginia at a large and very competitive public school. The other students were nearly all from large public high schools, though from a variety of settings--urban to rural, but one CM had attended a private military academy.

The interviews ranged in length from 11 to 26 minutes, and most students were very eager to describe their experiences and share their opinions about their first biology laboratory course. Although the focus of the interviews from the point of view of this study was the students’ experiences with ITAs in biology, it was important to ask some general questions about the laboratory course and experiences with ITAs in other subjects as well, so as not to bias the answers. Reading and color coding of the transcripts of the interviews was very quick, and it was easy to see common patterns and themes. These are given below.
Schedule.

All the students reported that they had been given their schedules by their advisors during orientation and that they had no idea in advance who their laboratory instructors would be. Two of those interviewed had to change classes because of schedule conflicts, and one because of late arrival for the semester, but they did that by selecting suitable times, not with any knowledge of the instructor. Although several said they had been really unhappy with being given an 8 a.m. class, most just accepted it and managed to get used to the time, although some mentioned not eating breakfast before the laboratory class most of the semester.

Course and materials.

The interviewees all felt the biology laboratory course was very well set up and coordinated with the lectures in the regular biology classes. One CM even commented on the connection and coordination with the freshman chemistry course: “I thought they were intertwined well. Like the first few weeks, they were both talking about water and its qualities, and all the notes are on line, so that’s nice. Yeah!” Most students really liked having materials provided on line and planned in advance, but one CF from Virginia complained, “I didn’t like how each TA has their own website. I wish they’d just do it through Blackboard [the institution-wide academic interface software program]. It makes it a lot easier on the students. Other than that it was fine.” Another CF from a small country town mused, “It was completely power point for biology--all power point. It was OK--a little bit boring, I guess--just kind of unstimulating. But it was good.” An 18 year-old CF majoring in Biochemistry disagreed, “It seemed interesting. I thought the slide
shows were really helpful. They tried to make a lot of stuff more interesting than it really could be. I think they did a good job.”

All but two informants really enjoyed the laboratory course and found it fun, fairly straightforward, and easy, depending on whether or not they had done Advanced Placement (AP) Biology in high school and how recently they had done it. One CM from a small town in south-west Virginia who’d attended a private military boarding school and done AP Biology in his senior year, grumbled, “Well, there really didn’t seem to be much point to doin’ the lab class—in all honesty—we all knew what was goin’ to happen; everything was explained in class, in the lecture—it really didn’t seem to have much point for doin’ ‘em in all honesty—a bit boring…I was kinda like lukewarm the whole time.” A CF from Pittsburgh, PA who had also just done AP biology, essentially agreed with his opinion. However, most students enjoyed the hand-on nature of the laboratory course, and in fact, many said they found the actual lectures in the regular biology class to be boring, dull, and rather difficult. A CF from the Richmond, VA area put it this way, “The lectures were pretty boring, but the labs. were hands-on and reinforced what we learned in class.” The CF from a small town in south-west Virginia said, “Lecture was just...really tough, and it was an hour and 15 minute-class. It was really long, and, the lab was definitely more…a better experience.” The Ethiopian student stated, “I also think your TA [in her case an ITA] has a lot to do with that. And our TA is all about, like us enjoying it, which makes it interesting.” Another CF was more quantitative, “The class was decent—I’d give it a 6 or 7 out of 10.” The most common view of the lab. course was summed up neatly by an NCM who was born in Egypt but raised in the US, “It was a fun
class! But the actual biology class was really boring--a lot of people skipped the 11 o’clock class!”

The 14 interviewees all felt reasonably satisfied with their grades and that the grading was generally fair, even if they didn’t get As. Some, however, mentioned that different instructors required and graded different numbers of lab. reports and worksheets, so they didn’t think that part was fair. In relation to this, two students said they would have been happier, if there had been more assignments graded by their instructor, or if there had been more opportunities to improve their grades. Some students were rather confused about how to take the on-line quizzes and whether they could print them first and find the answers before actually going on-line to submit them for a grade. The student from Pittsburgh lamented, “We didn’t get a printed copy of the quiz—it doesn’t tell you what the right answer was, though. That was a little bit irritating—just whether you got it right or wrong in bold with cap lock and huge exclamation points!!!!” The two internationals, however, were both very clear about the process and how you could get all the answers from the material provided in advance. Both said their ITAs had told them explicitly that was how to do the quizzes.

Grades definitely made the transition from high school difficult for some informants, especially getting used to lower grades. As one student from a country high school said, “I’m just not used to that from the high school when normally it was 98, 100. So, it’s a bit of a shocker to have those kinds of grades for a semester.” For other students, the most difficult things were getting used to not being known by name by professors and instructors and getting used to the type of in-depth knowledge required and the different teaching styles.
One more serious negative raised by several students was with a laboratory session concerning DNA that relied entirely on computer technology. Students had been asked to take their laptops to class, but only a few were able to get on line simultaneously, and those who couldn’t, were unable to do the lab, and basically wasted 1½ hours in futile efforts. One CF felt that this was why she didn’t understand the topic completely, so she was rather annoyed when there was an exam question on it. There were apparently some other computer glitches which held things up in other sessions, but they were readily solved and had no great impact.

The other point mentioned repeatedly by interviewees was the amount of work required for only one credit and the fact that the requirements for the one semester biology lab. course were different from those for chemistry. One NCM said he felt really rushed in some of the laboratory sessions and would have like more time after the instructor had done her presentation, and three students voiced mild dissatisfaction that the labs were general in nature and not more specific to their own particular majors.

_Laboratory groups._

Most student students were happy or very happy with their laboratory partners, and some made firm friendships with those who had just by chance been at their table and formed a group on the first day of class. Many exchanged cell phone numbers and email addresses and kept in touch during the week to ensure they completed all their work in a timely fashion. However, two students reported major problems, though neither of them actually did anything about the difficulties except to work around them and basically ignore them.
The first of these was really a problem with two of the four members of the group. “One did nothing, one tried. She was really nice, but really inept at times and didn’t know much.” This left the CF interviewee and a male student, the fourth member of the group, to do all the work. However, according to the interviewee, “It’s OK, it worked out.”

The other problem was more serious, but again the student, an 18 year-old CF from Chapel Hill, North Carolina, didn’t feel it was appropriate to complain or even bring the matter to the attention of the instructor. In her words, “I had one lab. partner who didn’t say a word to us the entire semester, not one word, except to say ‘Can I look at your answers?’ Me [sic] and one other dude did most of the work.” When queried as to the nationality of the student who didn’t speak to the other group members, the CF replied, “She was Asian--I’m not sure where…” When asked what she had done about the situation, she quickly answered, “I didn’t complain about that--I’m not that kind of person.”

Advice for freshmen.

Most interviewees were happy to make some suggestions for future incoming freshmen, though a few had trouble thinking of any advice to share. The most commonly suggested things were “Keep up with reading or try to read ahead,” and “Be prepared for the lab. class beforehand.” Several students mentioned printing the on-line quizzes to use as study guides, and others advised asking questions. An NCM of Philippino parentage said ruefully, “Take AP Biology, preferably in your senior year!” indicating by his expression that he himself had not done so. One CF from a large, but not at all diverse
high school suggested the following: "Definitely take it seriously and realize that the two
courses--the actual class and the lab. overlap, and take the knowledge from the class and
bring it into the lab." On the other hand, the student from Ethiopia advised, "Don’t take
things too seriously, and don’t stress out!" She also cautioned freshman not to think that
something called a quiz is unimportant, just because it’s called that and not a test or an
exam., because “everything counts towards the final grade.” A CF biochemistry major
summarized her advice cheerfully and succinctly in a very encouraging manner: “Pay
attention. Pay attention to your TA. Be willing to ask questions...as long as you stay up
with the course. Read your lab. manual. Know what you’re doing, before you go in. If
you go in not having read the lab., you’re going to be in trouble: you’re going to be
behind. But as long as you’re willing to ask for help, you’re gonna be fine!”

Teaching assistants in general.

Because the interviews took place at the beginning of the spring semester, the
respondents were able to report on the TAs they had for both fall and spring. The total for
all courses was between one and five graduate teaching assistants each semester, with no
more than three internationals at any one time. It seemed that most of the ITAs were from
Asia, but the freshmen were often uncertain about the names and countries of origin of
these instructors. The students were however, already quite keen to offer some opinions
on graduate teaching assistants in general. A CM from a fairly urban area in northern
Virginia volunteered, “I think it’s a good idea. They know the material pretty well, so I
don’t see any problem with it. And they’re more up to date.” At this point, the
interviewer should have asked, “More up-to-date than whom?” but didn’t, so the moment
for clarification passed. Did he mean more up-to-date than professors?
A male from a suburb of Richmond made it quite clear whom he meant, "They seemed pretty knowledgeable about the subject. They're definitely more approachable than the professors. Generally I think they definitely help the class, since they're closer to my age, and the groups are pretty small." The student from Ethiopia, who had the most teaching assistants (five each semester) was not so certain, "TA's in general? Ummm...I think it's...OK, [lots of hesitation and searching for the right way to express herself] as long as....I dunno, I think it's kinda hard to keep up with their own work and also teach other people...so I feel like they can't really pay attention to you as much as a teacher should, could, but X [proper name] is a really good example. She's a really good teacher, and Y [another proper name]--I think was pretty good too. He just had a lot on his shoulders, 'cause he had to finish his thesis."

The conservative male who had attended the military academy was also hesitant when asked about teaching assistants in general, though for another reason. "Mmmm," he replied thoughtfully, "...It's fine as long as they know what they're talking about and they don't try to act like they're Mr. Big Shot or Miss Big Shot or anything like that." He continued after another pause, "I just think it's better if somebody else is grading, but if they're doing the class, it's fine with me." He conceded it was OK if they were able to do it pretty well, but added, after another hesitation, "That's the thing--'cause they're not that much older than me, I'm not used to that, 'cause I was used to having teachers in their 40s and so on. So it's a different concept."

Rumors and hearsay about all the teaching assistants were also apparently widespread, with the undergraduates confiding things like: "I've heard complaints about other TAs," or "It varies a lot from TA to TA," and "There's other labs., where....my
friend was in a lab. with a female TA, where their class average was an F for a bit," and
“I’ve heard about other TAs being really, really hard.” These things were usually said
when the students were praising their own instructor.

*International teaching assistants.*

The freshmen interviewed generally seemed to take having many TAs and ITAs
in stride. However, some of them alluded to problems with ITAs in courses other than
biology, so these comments will be mentioned first.

A CF from northern Virginia spoke of the Asian ITA she had in her chemistry
laboratory class, “He was OK. He spoke very fast. He was a little bit hard to understand
sometimes, but he knew the material pretty well...don’t know where he was from.”
When asked how she handled the situation, she replied, “I usually just tried to get help
from the lab. manual or from a partner--he was always running around trying to help
somebody.” The Ethiopian female also spoke of a Chemistry ITA from Asia, possibly
the Philippines, “I could just never understand Y [proper name], ‘cause, she had an
accent, but other than that, she was a good teacher.” Her response to the situation was, “I
tried to figure it out on my own, and there’s another TA, called Z [proper name], so I just
tried to talk to her more. Get her help. Our entire class had trouble. I don’t think the TA
realized.” Other students mentioned ITAs, but said they were fine, even if they didn’t
remember names or where they were from. They would occasionally say Asia or China
as the country of origin, but nobody seemed sure. The Egyptian-born Virginian male said
his ITA for Chemistry Lab. was an Asian female--from Vietnam or Korea, he wasn’t sure
which, and when someone else referred to the same ITA, it was “I don’t know what her
last name is, though. I think she’s from South America--or no, [pause, thinking] she’s
from Vietnam, or somewhere round there. She’s from somewhere else—somewhere in Asia.”

Similarly, when asked about their fall Biology Lab. ITAs, only two of the 14 interviewees, the Ethiopian and a CF from Richmond, could correctly say and spell the name of their ITA and identify the ITA’s country of origin or nationality. The Caucasian, though, also gave the ITA the title of Mrs., which was incorrect. Another CF from a very monocultural high school in Loudon County, Virginia, when describing her ITA said, “She was also Asian... probably a little easier to understand than my chem. lab. TA--I’m not sure where she was from. I’m not too good at identifying other cultures, I must say!”

Male respondents in particular, didn’t know the nationality of their ITAs and sometimes the names as well; for example, “I know she’s Asian nationality, but as to exactly which one, I’m not exactly 100% sure.” There were also discrepancies in the names given to the ITA, even within the one class. Some students used a title and the family name, others a given name or part of it, and nobody seemed to realize that Korean given names have two parts, and they should have been saying the Korean ITA’s name in that way. Even the CF, who got the Korean ITA’s name correct commented, “She didn’t care – either X or Mrs. Y, or whatever. People called her different things. Yeh, she didn’t mind....Nah, she was really informal. She was really easy to get along with.”

Students generally thought the ITAs in biology were from China, Korea, or even Russia; but only the CF from Richmond correctly identified the Korean, and only the Ethiopian knew the home country of her Mongolian ITA. The student from India was even further off the mark when she said, “I think she was from the Philippines...? Or something round there.”
Only one CM from a very diverse high school with a large ESL program in a suburb of Richmond and the CF from another fairly diverse suburb of Richmond did not report any trouble understanding their biology lab. ITAs. The student from Ethiopia said that understanding speech wasn’t a problem, but sometimes understanding written test questions or instructions was. The CF from Maryland reported being able to understand her ITA but felt there had been problems with the ITA’s teaching style. She added that there were also difficulties for the instructor in understanding the undergraduates.

The difficulties on both sides seemed to cover the whole range of intensity levels. The CF from Richmond found her ITA “pretty easy to understand,” but she also added that the slides and prepared materials helped greatly in understanding. A CM from Richmond was good-natured about any difficulties, “Her English wasn’t the best, but she tried--I was mostly able to understand her.” Others said the ITA was hard to understand at times, especially at first, and when she was nervous, but that they “just kind of got used to it.” The CF chemistry major from Pennsylvania explained, “I think she understood the material very well herself, but she had trouble communicating it to the class. Umm, none of us like, like really understood, like sometimes what we were supposed to do. When we asked her, I don’t think she rally understood what we were asking her... It was just like there was a communication gap.” Another CF from northern Virginia also commented, “The language barrier was a little difficult,” and most other interviewees had similar opinions, but didn’t seem to be unduly bothered by it. The one who had most to say on the language difficulties was the young woman from India who shared the following:

The only issue I had with that class was our instructor, sort of, like her accent was really hard to understand. Yeah, a lot of times. Like in our groups, we used to ask each other, like “Did you get what she said?” like things like that. Or we’d ask her to say it again maybe and then catch on to it. But it took a while. Initially it was
just like, whoa, what are you saying? But after that, then we got used to it I think--
and after two or three classes, we were sort of used to it, so it wasn’t really an
issue. It happens with a lot of people, a lot of instructors or teaching assistants.
But that was it.

Nevertheless, she returned to the topic twice more in her interview, so it clearly bothered
her quite a lot. Several students however, were like the CF from south-west Virginia,
who conceded, “She was a little harder to understand because of the accent, but still a
very good TA and very helpful with everything we did.” Even if there were difficulties, it
seems the students generally found ways to cope with the language barrier.

Strategies to overcome language difficulties were as different as the individuals
reporting them, and no doubt, many of the students used different techniques in different
situations. All seemed certain, though, that their ITAs were very open to questions, and
very willing to repeat information, or explain something further if asked. When asked
directly what happened when she hadn’t understood the ITA, one CF replied with much
giggling, “Nothing really…we all just kinda, like, looked at each other, and decided not
to worry about it too much.” In contrast, the NCM of Philippino descent from Norfolk
had this to say: “When people wouldn’t understand her, we would ask each other, and
then, when we all couldn’t help each other, we would ask her. So, it was kind of like a
chain. Like, it went up.” Other students said they let things go and just read the relevant
material themselves, whereas the Indian student elaborated on the comprehension
problems she and those around her had.

Our table and the table in front of us--definitely, we used to just look at each other
and go like “What is she saying? We have no idea! It did improve. And then you
know how initially it’s just like “What are you saying?” And then later on it’s
like “I’ve heard you a bunch a times now and I can kind of tell what you’re trying
to say.” But initially, it’s just not that easy. It was not that easy…. But it was just
in classroom instruction sometimes; it was hard to decipher what she was saying.
But if she was explaining something about the lab., she was clear about it.
This introduces a theme mentioned by several other undergraduates: the ITAs really “knew their stuff” and were “very good at practical work” and “helpful with experiments.” The CF from North Carolina described her ITA with the following, “There was nothing wrong with her. She was nice—just very shy.” Other adjectives used by different students to describe their ITAs were, “sweet, kind, very nice, good, great, very helpful, organized, quick at replying to emails, good at sending reminders and helpful material, a lenient grader, and easy-going.” The Ethiopian explained why she liked her ITA a great deal as well as the course, “I liked it because there was no pressure, like, you weren’t pressured to write lab. reports. Instead, she just wanted us to learn, which was really nice, because that’s all we’re supposed to do I guess.” The young Indian woman also expressed her approval of her ITA, “She has a good sense of humor. She’s very easy-going. She’s fine. She’s not really adamant on making our lives hell. She’s pretty fine.” The final compliment though, was given by the NCM of Egyptian background, “She never messed around or forgot to teach us something or anything like that.”

Another interesting theme that emerged from the interviews was that the freshmen tried to be helpful and sympathetic to their ITAs, and often seemed to be making excuses for them, or at least, making light of difficulties and offering other explanations for any problems. For example, several emphasized that when there were technical difficulties in a laboratory class, these were not the ITA’s fault, just technical problems. In reference to a session in which it was hard to follow the ITA’s explanation, the ex-military school boarder said,

She might have had a little bit of trouble communicating what was goin’ on in the lab. that day, but the one I have right now, it’s the same kind of thing. Maybe it’s just tough describing them in general ... That was just one thing I’ve noticed.
In response, the interviewer asked, "You don’t think it was anything to do with her being Asian?" The freshman replied without hesitation, "Oh no, not at all!" Another opinion was voiced by the CM from a very urban high school in Richmond, "She was pretty blunt sometimes, but it didn’t bother me. It was OK, ’cause I can handle people like that!"

It was also apparent after several interviews, that besides not knowing the names or nationalities of their ITAs, many of the freshmen knew nothing at all about them of a personal nature. They used generalities, like “she was foreign, a very small lady, but very nice,” as one CF said, then added “a good TA, very good.” They didn’t know if their ITAs were married or had kids, or anything of their background or other work experience. For instance, the 18-year-old CF from northern Virginia had just mentioned that her ITA was very small and very cute, so she was then totally astounded to hear that the woman was married and had a school-age child.

Generally, the freshmen interviewed reported responding very favorably to their ITAs, and despite some difficulties, they all spoke of their experience positively and in an understanding way. The student from Ethiopia was probably the most enthusiastic about her ITA, “I loved it, because everybody else’s lab. TA, who was apparently extremely hard, or they didn’t understand what they had, they just didn’t like biol. lab.” She continued on to explain why, for the second semester, she and some of her classmates had paid this particular ITA the ultimate compliment, “That’s why I requested X, just to make sure I didn’t have a TA I wouldn’t know anything about. X is a great TA...I told her so. We all told her we were gonna try and sign up for her classes. Not everyone made it, but I did. Two of us did, so that was good.”
The first week of classes.

On being asked to recall the first week of the school year, most of the interviewees immediately mentioned the gunman incident, “A gunman on campus on Monday—Oh God!” or “The most eventful thing--my first day of school! We stayed in because of an escaped convict! Ooh everyone remembers that!” Females, in particular, recalled the events with laughter and lots of (nervous?) giggling. For example, the female from India responded first by laughing and then, “The convict incident! It was exciting! [giggling] We were OK. It was exciting in a strange way [giggling]. Ah, everyone was like, we don’t really care, the first day’s already gone...[more giggling].” The CF from Pennsylvania also giggled and laughed a lot as she recalled the events, “The first day of class--biol. lab. was later that day, but it got [giggling] cancelled!”

The CF from Maryland mistakenly thought her class was the only one that did the guest activity on the day of the shooting, as she described what happened when the researcher was a little late arriving (because of new bulletins and instructions to the faculty). She said, “The TA had to ad lib., and the class was like, ‘What’s going on?”’ When prompted to recall the guest activity, she continued,

The card game! I vaguely remember it! Something to do with monkeys--oh no--that was the reading. We weren’t really interested in what we were supposed to be doing-- rumors were circulating madly! Like I just remember there were cards, and if you got some cards, you wanted to keep them or something--I couldn’t concentrate...mind wasn’t there...

Although the CM from a small town in Virginia remembered the card game a little, he didn’t remember the discussion that followed at all, “Not really. No, really nervous... It was my very first class here...on the very first day...I got messed around with the gunman...” In contrast, one CF put it quite succinctly and in a rather matter-of-fact tone,
“First week? Didn’t have labs that week. Just different from high school. It was definitely a very nerve wracking time. Gunman stuff.”

**Guest activity.**

The intercultural training or *treatment* in this study was always referred to as the *guest activity* in the presence of students. Recall of the activity and reactions to it by the interviewees were mixed, and three of the informants had not actually participated in it for various reasons. The CF from North Carolina was one of those. She admitted that another girl had told her about it, “…but now I can’t remember what she said about it except ‘it was better than doing the lab!’” Some students were quite surprised, and one seemed perplexed at being asked to remember something that had happened a whole semester before! Other reactions ranged from amusement or continued confusion as to the purpose, all the way to approval, enjoyment, and positive encouragement for conducting such activities.

The 18 year-old male from Richmond voiced his frustration at not being able to talk during the tournament, especially “when people don’t understand what you’re trying to get across.” He then added, “I thought it was funny. It was interesting--how people could get so upset about such a little thing as a card game.” When asked if he himself had gotten upset that day, his answer was, “Nah...I just kinda gave up.” On the other hand, the 18-year-old male from Chesterfield County, Virginia, mused, “I guess it was just kinda strange. ‘Cause it, like, I was trying to adapt and everything the whole first week and it just, it caught me off guard a little bit...but it was interesting--it was fun!” One NCM agreed with that assessment, “That was pretty fun! It kinda took the tension out of having an 8 o’clock class.” The other NCM concurred, but what he actually said was
rather amusing, “That was a really good way to ease into college--it was a fun--what was the activity about?” In fact, he did remember the whole activity quite well and enjoyed it a lot, partly because, as he said, “It was unexpected.” Someone else stated, “Oh yeh, that was pretty intense!” However, the CF from Richmond confessed, “I really liked the game. I thought it was interesting, just because I’m competitive, and I won a few times!” She also had good recall of what had occurred but stressed the frustration people had felt at not being able to communicate very well, “Not upset, just frustrated a lot. Just frustrated.” Her ultimate judgment though, was, “I thought it was funny!”

Some of these responses and reactions indicate that the freshmen had differing views of the aim or purpose of the guest activity. “To analyze communication problems and I guess different concepts you abide by” volunteered one CF. Another asked, “Was it a study of some kind?” and then “Was it possibly like people immigrating countries or something?” The NCM from Norfolk, Virginia, remembered a lot of detail about the tournament part of the activity, but when he was asked what he thought the purpose of the whole session was, he giggled and said sheepishly, “I’ve no idea.” By way of explanation he added, “We didn’t hold it against them. We just made sure when they came to our table that the rules were clear.” The Indian female offered this: “So you should take all perspectives into consideration. Background different--yeh. It’s hard. Of course, of course.” The CF from Richmond suggested, “just coming into a new biology lab. or a new school in general, just having to try and figure out how to work everything for all the courses,” whereas the NCM from Egypt proposed “how we express certain emotions without being able to speak to each other.” He continued on quite astutely,
“And always thinking we were right, even though the other person might have the same exact idea, for a reason...they read the rules too!”

When asked if she had talked about it later, the student from Pittsburgh laughed and said, “We didn’t really talk about it--We just like kinda laughed--whatever! And some people were like, ‘Oh that’s what happened!? ’ And the light bulb went on! We didn’t really talk about it too much, I guess.” Most of those who had participated reported that they hadn’t talked about it later, largely because they’d been asked not to, and because it was overshadowed by discussion and analysis of the gunman situation and its aftermath. The NCM from Egypt summarized his feelings and what he’d learned, “That was a good exercise. Just--it was a good social-learning thing. It made me realize that we’re not always right, no matter how absolutely sure we are...If it’s something you’re not absolutely 100 % about, then maybe don’t speak unless you are.” Perhaps the 18-year-old student from India should have the last word, for what she said was actually very perceptive, mature, and encouraging: “That’s a good thing that you brought up that activity. But, honestly, I don’t feel like, it probably made a little bit of difference, but not really, not really. Right, but you do have to try, you have to keep trying to see what really works, and then just apply it.”

Overview

It took about seven months of hard work to gather, clean up, order, and analyze all the different types of data collected from the many different sources for this study. Some unfruitful directions were taken, especially with the quantitative data analysis, but gradually, patterns and themes emerged to make the interpretation and discussion of the
results relatively simple and straightforward. These will be detailed in the following chapter.
CHAPTER V
DISCUSSION

General Interpretation of Findings

The results of this study are encouraging, but mixed and inconclusive for a variety of reasons. The literature review clearly pointed in the direction taken in terms of trying to see what can be done to help undergraduates learn more effectively from internationals in general, and in particular, from the international teaching assistants they encounter in large freshman gatekeeper courses, such as Freshman Biology. This is why the analogy to The green banana (Appendix G) is so appropriate. The current emphasis on increasing diversity, multiculturalism, and globalization in every facet of life makes it relevant and timely. However, it is also clear that further research is necessary, especially in the quantitative arena, to clearly establish and measure the effects of various types of intercultural training and accent familiarization on undergraduates in general, and in particular, on undergraduates taught by international teaching assistants.

Demographics

Freshmen.

The number of freshmen in the Freshman Biology laboratory course in the fall semester this study was conducted was somewhat lower than expected and lower than in the previous year. However, just as anticipated, the students were from largely monocultural backgrounds and had had limited exposure to internationals and limited international experience themselves. When describing her ITA during a taped interview,
one typical Caucasian female said, “She was also Asian...I’m not sure where she was from. I’m not too good at identifying other cultures, I must say!” The inability of most of those interviewed to identify the nationality of their ITAs was striking, as was their general ignorance of more personal information about their ITAs. The undergraduates were therefore excellent candidates for the type of diversity training undertaken in this study, as most were traditional age students who entered college directly from high school. As discussed in the literature review, it makes a great deal of sense to do the training in their first semester or first year of university, hence the timing of this research. This was done purposely before freshmen fell into bad habits of negativity, pre-judgment, or group speak about instructors and fellow students who are culturally and linguistically different; bad habits, which would indelibly color their university careers and their lives.

Laboratory instructors.

The native-English-speaking teaching assistants too, were from much the same backgrounds as anticipated with very little international experience, and only two of them reported any facility in speaking a foreign language or any significant experience abroad. The small number of ITAs was a problem for the research design, for unfortunately, although six or more had been anticipated based on previous years, for various reasons, the number kept dropping until only three were left. As it was, the final number was not known until the Friday right before classes started, because that was the earliest one newly arrived international student could take the SPEAK test. When she failed this test of spoken English, it was not only inconvenient for the Laboratory Manager, who had to redo and shuffle class assignments and the teaching schedule, but it was also unfortunate.
in many ways for this research. However, at that point, not much could be done except to proceed as planned.

Training

Chapter 4 of this study contains the results of the affective phase of the debriefing in the Barnga training module. Because the cognitive phase of the debriefing involved analysis, interpretation, and discussion of analogies and possible applications, it was considered to fit more appropriately in this chapter, so it is the subject of the next section.

Simulation.

Simulated communication difficulties, which of course affect everyone differently, lie at the heart of the Barnga training flexim. The participants had been given the task of playing together, winning tricks, as part of a card-playing tournament. Because the rules were in fact different at each table, confusion ensued when the winners moved from their home teams, and the new groups had to negotiate non-verbally how they would proceed and whose rules they would use to finish the job. This whole process became the shared experience, which was then analyzed in the debriefing that followed the game. After venting their feeling and reactions to the experience, many of the students reflected on what had happened and shared a number of thoughtful and insightful comments.

Several were “surprised at how hard it was to communicate,” though one male student added, “but some non-verbals were easy and quick.” “Both parties have responsibilities in communication” was a lesson some participants drew from the experience, and one expressed his feeling of helplessness this way, “I went with the flow: I felt like a deaf person who doesn’t know sign language.” Some students confessed that

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they had stayed at their home table the whole time, and they had no idea that anything was different or that players at their table were having problems. I guess I didn’t “really pay attention,” one reflected ruefully, “I wasn’t very observant.” Other participants said that they had tried to figure things out, that rules started not to matter, and then they had gone to no rules at all, so the whole game “kind of fell apart.”

About 50% of several different classes said they had guessed the truth, that the rules were different at different tables, by the end of the game. In one class, only roughly 40% said they didn’t know about the variations in rules by the end, but one young woman admitted she was quite “dumbfounded” to just find out then, during the discussion. “Everybody was telling me during the game, but I still didn’t realize. People gave me weird looks, and all I could think was ‘Did I do that wrong?’” It seemed apparent to the researcher from some of the other discussion sessions, that this student was not the only one who didn’t realize there were differences in rules until the debriefing took place and everyone could talk normally again.

Two rather memorable remarks were made during this part of the session--notable because they were disparaging, even though made partly in jest, and indicative of the prejudicial mind-sets which many people have. An upperclassman who had joined in the activity said, “She’s a freshman, so she didn’t remember the rules!” Of course this evoked laughter from the others present, but it was also rather worrisome to hear. The other comment from a serious-looking Caucasian male drew an even louder response, along with protestations and laughter from the audience: “They’re girls--they just don’t know how to play cards!”
Reflections.

Participants were less talkative as they reflected on their own behavior and messages sent and received during the tournament. One female shared this: “Yelling at you (in the card game) really makes you an outcast or feels like giving you the finger.” “Yeah, don’t be mean to me—I was really trying!” sympathized another young woman, who had obviously had a similar feeling and was still protesting to those at her table. The student who drew the sketch shown in Figure 5 (p. 117) also clearly sent a negative message of ridicule to a fellow player. Another student reflected, “If it’s one against three, you really doubt your own rules, or you think you’ve made a big mistake.” Someone else explained further, “We bonded at our first table. And we (3 against 1) didn’t take notice of the minority’s confusion, so we didn’t care. The communication system was different at the second table.”

“It takes time to learn the rules;” observed one young woman, “I had no idea in the game the rules were different, so I was intolerant.” Her honest assessment of what had been going on was refreshing and encouraging, so it would have been good to have the luxury of more time to allow all the participants to thoroughly digest the experience and process their reactions. Other students also shared some negative assessments of themselves and how they had behaved during the tournament. One said that she was first surprised that a new student was winning and then began to wonder how he was winning. This was quickly followed by very negative thoughts about him. Ultimately, she was very confused and thought “he wasn’t very good” and “there was something really fishy about him.”
“People don’t like change” one male student stated rather bluntly. Others picked up on the theme: “Yes, like in a small town, people don’t like Wal-Mart or other big companies. They don’t like change.” “Me neither,” a rather timid voice piped in, “I don’t adjust to change really well.” There were murmurs of agreement about this and the conclusion that change is difficult for everyone. An example was given of students going to different departments or schools, or starting college. In another class, talk turned to the difficulties of changing people’s minds when they “are so set on their ways.” Several people suggested if the “other person has a set mind and won’t change, then you have to adapt” indicating the students’ willingness to at least consider being flexible and even compromising.

**Analogies.**

Participants were able to think of many real-life situations analogous to different aspects of Barnga. “Moving to another place” or “another town, region, or country” was most frequently mentioned, as were “internationals, foreign students, foreign exchange programs, and foreign persons coming here.” Many things connected to having to adapt to new customs and a new environment were also mentioned, such as state laws being different, driving in different places, housing sticker shock in different parts of this country, and different currencies in foreign countries. One female who had lived in Turkey with her family for two years shared, “Fast food restaurants there really shocked me--like culture shock!” which other students found very interesting and wanted to know more about.

The second most frequently mentioned analogy was learning to live in a dormitory and sharing with a room mate. Some students felt, “It’s important, you don’t
want to offend.” Others quickly mentioned further problems related to starting college, transferring from one school to another, joining a fraternity, and so on; but in many of the groups, discussion kept returning to the room mate issue, obviously much on the minds of freshmen who are required to live in dormitories. This elicited talk of having “to consider other viewpoints” and “getting to know a new person, making new friends, different kinds of friends, dating, and relationships in general.” A couple of students commented that living in the “dorm is really different from your own house,” and others spoke of “differing cleanliness standards,” or “social habits.”

“Different teachers, professors, instructors, and classes” were all mentioned, and several students also talked of “different rules and standards in various sports leagues,” as well as “getting new coaches who set different guidelines and rules to follow.” The most amusing comment about adapting to college, however, came from a Caucasian male who offered this, “At high school you can’t cuss in class, but now you can!”

Another theme mentioned in about a third of the classes was that of religion, and the necessity of being tolerant and respectful of different religious beliefs and customs. Several students also brought up, “Country people speaking differently from city people,” which was interesting, as the site of the study was a university in a rural area of Virginia with a strong regional accent, and most students are from other, often urbanized places. Only one class touched on “accents sending messages about people,” and this was related to “different socio-economic backgrounds.” Unfortunately, at this point in this particular class, time was almost up, so when the student who had first mentioned different socio-economic backgrounds and accents gave the illustration of the “Beverly Hillbillies,” the group dissolved in laughter, and the session was over.
Strategies and applications.

Although this discussion has been divided into sub-sections for clarity, in the actual debriefings, many of the reflections, analogies, strategies, and applications were intertwined and not so neatly divided.

Students were eager to make suggestions on how to deal with the various analogous situations they had mentioned, using strategies derived partly from their fresh experiences in Barnga, but of course also influenced by their individual backgrounds, upbringing, and life experiences. The suggestions were quite varied but contained many good ideas on how best to reach solutions when there are conflicts and different values on each side.

The few passive or negative approaches will be mentioned first, not just because of their nature, but also because some of them may have been meant facetiously. Two different Caucasian males offered these, “Suck it up!” and “Get over it!” which were not very illuminating and just advocated accepting the status quo. A few other students came up with suggestions like, “Watch and wait,” or “Lay low!” and “Three make a club.” “Have a louder voice or quicker hands! Speed is important” was also mentioned, perhaps as “tongue-in-cheek” advice. “Make them do it!” was given forcefully as an approach by a male student, who most probably had done just that and found it worked, at least in this particular card tournament. A female student disagreed immediately with this and offered her somewhat surprising advice, “Be a push-over--there’s less conflict that way!” Of course to someone who values harmony above all else, that would seem entirely laudable.

Strategies requiring more positive action were definitely in the majority. These included, “collaborate, communicate, seek counseling if you can’t work it out, make up
with the other person if you have a fight, compromise, it’s OK to disagree,” and many other similar suggestions. Several participants mentioned an important point they had learned from the simulation, “Don’t make assumptions,” and others suggested “explain, be patient, be open-minded, adapt, and go with the flow.” Someone observed that this kind of open-mindedness is important in “expectations for a new class,” and other students commented on it as regards room mates, “You have to adapt and compromise--meet the other person half way--talk it out, lay it out, work out differences. You have to pick your battles.” “Be tolerant!” and “Keep your cool!” were additional pieces of advice for those already having conflicts in a dormitory situation, or for all of the freshmen to tuck away for future use.

The suggestion, “Find common ground!” clearly struck a chord with several participants who agreed it was really important “to explain viewpoints,” and “share information,” as well as to “be flexible” and “mindful of differences.” At one point fairly late in the cognitive debriefing phase with a group of vocal students who had really warmed up to the discussion, a Caucasian female admitted rather shyly that she “still thought she’d read the rules wrong.” The author thanked her briefly for sharing, but nobody else responded directly, for it was rather unexpected to hear such a comment at that point in the session. Later reflection brought recognition that it was actually a valuable contribution. It certainly brought home the fact that different people have different learning styles, that what happened had affected participants in very different ways, and that everyone processes shared experiences in their own unique ways and at different speeds.
When asked what they had learned (if anything) from the whole guest activity, many students said things like “Show respect and don’t judge everybody by the first person you meet. Don’t let foreign people think everybody here is awful.” Some students gave examples closer to home, such as “Listen to each person. Show respect and go to new students like at X [name of the university].” Others drew more directly from their recent shared experience with advice like, “Try not to judge them [others]. Don’t say they’re stupid!” and “Be a keen observer, try to respect others and don’t be mean!” Many students again mentioned “communicate, compromise, adjust, respect each other” or similar strategies, and getting along with room mates, in-laws, and even your own family were all given as examples. Other insights some participants shared were that you should “discuss problems,” and “not be afraid to talk,” as well as “don’t automatically assume anything!”

“Remember if you go abroad,” one student began, “You don’t just represent yourself—you’re representing your country on a global level” “That’s true here, too!” was the rejoinder from someone. The female student who had gotten really angry and sworn loudly at not being able to ask a question during the tournament shared this valuable insight, “Even if there’s a language barrier, like with a person from another country, you can still respect them.” Another thoughtful participant commented, “It worked if you helped the newcomer adapt, like to different cultures from how you were raised. Fighting doesn’t help. You should remove barriers.”

One young man took a refreshingly different and bold approach when he advised, “Adopt the new rules and beat them at their own game!” though of course, this might not always work and is rather risky. In one session, a Caucasian male again had the last word,
to the amusement and appreciation of all the women in the room, “If it’s one guy with girls, you’ve got to accommodate to their life style--compromise and adapt!”

**Observations**

One observation by the researcher on the training and debriefing is that the teaching assistants who participated fully, just as one of the participants, and joined in the discussion afterwards on a par with the undergraduates, seemed to be those who were most enthusiastic about it at the later meeting of the instructors. As almost all the instructors had been at the meeting prior to the start of school, had heard an outline of the research project, and had been invited to participate completely in the activity if selected to do so, it was a little surprising to hear comments by some of them at that follow-up meeting that they didn’t know if they should participate or make comments during the discussion, or they wished they had been prepared in advance. However, it’s just possible that those who were uncertain about their roles were those who had missed the very first explanatory meeting.

Nevertheless, although it’s a subjective comment, the laboratory instructors who participated fully and enthusiastically in the activity and the debriefing seemed to gain a lot and bond with students by doing so. At least, they showed themselves to be flexible, good-humored, and willing to experience something new over which they had no control, but which they approached in an open-minded kind of way. An example of this is the Hispanic-American who was very enthusiastic about the activity and whose comments have already been quoted in Chapter 4. The Laboratory Manager later shared the fact that he was a very experienced teacher with an excellent reputation for getting on well with
students. Of course, this may have something to do with personality type, but his attitude, comments, and enthusiastic participation were in notable contrast to those of some other instructors, who seemed very sensitive and concerned about their status and less willing or able to shed the role of teacher for a class session and join their students as learners in a new shared experience. This may be because the researcher didn’t make this sufficiently clear to them at the first meeting, or it may have had something to do with their minimal experience as teachers, their unfamiliarity with the concept of a teacher as a facilitator of learning rather than as an imparter of knowledge, and their belief that they should maintain the role of instructor despite the unusual activity. Of course, at their preparation meeting before the start of the school year, they had all been exhorted by the Freshman Laboratory Manager in the following way, “Dress nicely for the first couple of weeks of class. You represent the Biology Department,” so perhaps this was uppermost in their minds.

It seems then that the researcher did not do enough to prepare the instructors beforehand to participate fully, although invitations to contribute and share feelings or reflections were always extended again to everyone during the debriefing sessions. In other words, some instructors misunderstood the intentions and were so concerned with their own status throughout the simulation, that they couldn’t allow themselves to relax and enjoy the novel situation and the opportunity to learn alongside their students as members of a learning community. This was unfortunate and ironic, for several instructors apparently held back, and one said she didn’t speak up because she thought it “would be seeing things through the eyes of the TA and not the undergraduate.” This means that everyone missed some potentially valuable individual insights.
However, a couple of TAs did make the point that they would have liked to rotate one more time in the card tournament to see what might have happened at the table when the numbers changed again. Some tables might have reverted to the configuration of one against three, though it might have been two against two, or even four players with four different sets of rules. This point was also raised by some of the freshmen in their discussions, but unfortunately time constraints prevented the extra round.

Reflections, comments, and insights by students and laboratory instructors have been quoted to report some of what they drew from the training activity. Clearly, the freshmen responded well to the simulation, although it was a non-traditional method to facilitate learning through an open-ended shared experience and guidance in reflection and processing of that experience. To tie some of the threads together more succinctly, the following are some principles that have been elicited from other participants in earlier playing of the game. These are quoted in the 1990 edition of *Barnga* published by Intercultural Press.

- When you notice a violation of the rule, you tend to attribute it to the ignorance of the others.
- If such violations persist, you suspect dishonesty.
- Only later do you entertain the possibility of a different set of rules.
- Expectations and prejudices contribute heavily to your reaction to violations of rules.
- The more similar two cultures are, the greater the shock when discrepancies are discovered.
- It is easier to face culture shock when you have a partner near you.
- Even when your partner switches over to some other project, you are still relieved to know that s/he is around.
- Cultural friction is aggravated by communication breakdowns.
- When there is a cultural clash, people tend to give up easily rather than fight for principles.
- Groups look for an external arbitrator when they are unable to communicate with each other.
- People who communicate effectively usually get their way.
• People become easily embarrassed about having to communicate in unconventional modes.
• Time spent in improving the communication is never wasted. It is frequently more valuable than time spent on task. (p. 27)

Satisfaction of Freshmen

The satisfaction of freshmen with their TAs and ITAs was measured by their responses to Question 7 on the institution-wide SPOI form at the end of the fall semester. The scores were standardized before being compared. Independent samples t-tests to compare the overall means of treated and untreated classes and ANOVAS to compare variances between groups taught by TAs and ITAs were conducted. Although raw scores for the treated and untreated groups appeared to be very different, no results of statistical significance were obtained. This was probably largely due to the fact that the intercultural training was too short to have a measurable impact on the satisfaction of students, and the fact that there were so few ITAs. Other limitations of the study are detailed in that specific section of this chapter. Despite this, the feedback from students during the training and from the audio interviews suggested that they had overall positive experiences with their ITAs. However, it’s clear that further work needs to be undertaken to quantify the effects of intercultural training on the satisfaction of undergraduates.

One interesting note to this arose in the audio interview with the international student from Ethiopia. She reported that she was so satisfied and happy with her ITA that she determined to get into that ITA’s class in the spring semester. She and a classmate managed to do that by doing a little behind-the-scenes detective work to enable them to sign up for the right section, although the classes are listed anonymously in the on-line
registration system. This student appeared to be the only one of the 14 interviewees to take the initiative and do this. One of the reasons she really likes this ITA is:

And she’s also really personal with you, whereas all other TAs just kind of... they’re there so you can do your work, and they can get out, and you can get out; whereas she’s there, because she wants to be there, and like, she’ll talk to you, she’ll have a conversation with you, which you wouldn’t think would be that big of a deal, but I think it really is. Yeh, it makes a real big difference.

This relates to and agrees with the results in the article by Gayle Nelson (1992) mentioned in the literature review, in which the use of personal cultural examples by ITAs was found to have a positive effect on student attitude, recall, and ethnocentrism.

*Achievement of Freshmen*

The achievement of freshmen was measured by their grades in the biology laboratory course at the end of the fall semester. Only letter grades were available for some classes, so mean numerical scores for each grade range were assigned to the letter grades. The scores were standardized before being compared. Independent samples t-tests to compare the overall means of treated and untreated classes and ANOVAS to compare variances between groups taught by TAs and ITAs were conducted. Although raw scores for the treated and untreated groups appeared to be very different, again, no results of statistical significance were obtained, and the differences have to be interpreted as due purely to chance. Specific limitations of the study are detailed in a later section of this chapter. Feedback from students in the audio interviews suggested that they were happy with their grades and felt the grading was fair, except for differences in the number of lab reports required and graded by the instructors. This is also discussed further in a later section of this chapter. However, it’s clear that further work needs to be undertaken to
quantify the effects of intercultural training on the grades of freshmen taught by international teaching assistants.

_Ethnographic Study_

Neves and Sanyal reported in 1991 that although most undergraduates preferred teaching assistants whose native language was English, they viewed their ITAs in a positive way as knowledgeable and very familiar with the subject matter they were teaching. However, not one of the 14 students interviewed for this study actually said they preferred a TA to an ITA, and they certainly spoke very positively of their ITAs. Although nearly all mentioned some language difficulties and had different ways of coping with these, nobody seemed unduly upset or really felt having an ITA was a drawback. This was rather different from what had been anticipated and certainly different from what the literature review had indicated. In fact, it was surprising and encouraging that the young people interviewed were able to be tolerant and respectful toward their ITAs, despite the communication difficulties they had and their own rather ethnocentric backgrounds and limited exposure to internationals. Several respondents even seemed to defend the ITA, almost to the point of making excuses for them. Whether the intercultural training session at the beginning of the school year had any impact on the students in this regard is impossible to say definitively, but some of the insights and conclusions they shared would certainly seem to point in that direction.

The most noteworthy finding of the ethnographic study was that so few students knew the proper names and countries of origin of their ITAs and anything about them personally. It was, however, pleasantly surprising that those interviewed hadn’t
succeeded to the kind of negative *groupspeak* Julie Damron encountered in her research in 2000 using focus groups.

**Implications of Findings**

**Course and materials.**

One of the issues with the biology laboratory course most mentioned in the interviews was the fact that different teaching assistants graded different numbers of lab. reports, work sheets, and quizzes, for it seems it was entirely up to the individual instructor how many to grade. This disparity seemed to bother several students, but it could be easily fixed by standardizing the number required.

The problem of all students not being able to use their laptop computers in the labs. for an on-line assignment could also be fixed fairly easily; but at the very least, it is important that there be back-up plans and materials in case of computer problems. Pedagogically speaking, it's probably not a good idea to have the whole two- or three-hour session totally dependent on simultaneous Internet access by all the students in the class. Perhaps the access could be on a rotating basis for small groups, with other groups involved in different activities for say, 30 minutes at a time.

Of course, many freshmen grumbled about 8 a.m. classes and wanted more choices of times, especially later in the day. Many said they wouldn't pick an 8 a.m. class by choice, but they knew they had to get used to it, even if it meant missing breakfast for quite a few of them. It seems they actually did understand and accept the physical limitations of the laboratory space in the Department of Biological Sciences, but they just had to air these complaints anyway.
Another complaint was that the CD provided in the laboratory manual is apparently a repetition of what is provided on the web site. This was not actually confirmed by this researcher, but if this is true, in the words of one student, “It seems a lot of trouble to make all those CDs and adds to the cost,” especially if people don’t use them. This might be worth reconsidering.

The two international undergraduates clearly knew the techniques for taking the on-line quizzes, but some native speakers of English did not. Whether this was due to their better listening skills, their greater awareness of language, or the fact that they are highly motivated, savvy students, is not known. Whatever the reason, it’s something that needs to be thoroughly clarified for all students in advance of actually taking the quizzes. Also the point one international made about nomenclature of quizzes, tests, and exams is well taken, as some high schools make rigid distinctions between these, but universities may not.

All teaching assistants need to be aware of how the laboratory groups are functioning, and there should be some way of checking that all members of a group are doing their part. The problems with groups reported by some students in the audio interviews can be avoided, if some form of monitoring is devised. Instructors need to pay particular attention to this if there is a newly arrived international student in one of their groups, just because of the higher potential for communication problems.

Laboratory instructors.

Prospective ITAs need to arrive and be settled into accommodation with enough time to take the SPEAK test well in advance of the start of school. The Freshman Biology Laboratory Manager states quite emphatically that the required arrival time for such
internals should be a minimum of two weeks before the school year begins to allow time for testing, training, and preparations to teach. Alternatively, the Department of Biological Sciences might consider not having newly arrived international graduate students actually teach but use them as partners, or for grading and other tasks, and allow them the first semester to observe classes, adjust, and get settled.

All TAs, and ITAs in particular, should be certain that their students know exactly what to call them and how to pronounce and spell their names. Sharing some personal information can only increase personal rapport with the undergraduates. For ITAs, describing their country of origin, actually showing the students its location on a map, or sharing the occasional personal fact, example, or artifact, can be a great service to the students, as well as help establish a good classroom atmosphere. As Ross and Krider (1992) found in their investigation of pedagogical and intercultural difficulties ITAs experience, the amount of verbal interaction in US college classrooms was surprising to the internationals. They were also shocked by the poor knowledge of many US students of the geography of the rest of the world (p. 284), so any sharing by internationals of their own cultural background could be a very positive step for all concerned.

**Limitations**

It had originally been postulated that the shock value and memorable, enjoyable nature of the training session would have a measurable impact on the undergraduate students' satisfaction and achievement because of their increased willingness to defer judgment, and on their improved flexibility and patience in working with and learning from ITAs. In particular, it was thought that the use of an unusual and different kind of
activity would help move the event into the episodic part of declarative long-term memory, where unusual events are stored or recalled (Renn, 2005, p. 55). However, these aspects of the Barnga simulation were completely and utterly overwhelmed by the very real shock of the events associated with the escaped gunman and the subsequent closing of the campus on the first day of the school year. In fact, as a consequence of the gunman excitement, some of the students doing audio interviews had to be prompted to remember what else had happened during their first week of school that was different from normal. This surely had a confounding effect on the impact of the training sessions that first week, but it is one that is impossible to quantify.

Related to this is the actual length of the intercultural training, which was probably too short for there to be any measurable impact. As mentioned in Chapter 4 of this study, it was a short version of Barnga. Attitude and behavioral changes take time to develop, so although an activity such as the Barnga simulation, even in a short version, is a valuable and helpful tool, it is insufficient by itself to have the desired impact and is probably best utilized as part of a longer, ongoing course. This was a very real drawback to finding a measurable impact of the training.

The unanticipated and surprisingly very low number of international teaching assistants for Freshman Biology in the fall semester is also a confounding factor, as it meant the factorial research design became very unbalanced, with the absolute minimum number of two classes in three cells, while there were 10, 15, and 24 in the others. On the other hand, it was possible to utilize two sections taught by the same graduate student, with one section receiving treatment and one not, so this helped to control some other confounding variables and increase internal validity of the study.
Further limitations to this study are the relatively small numbers of students, classes, and instructors at only one university, which is a threat to external validity. In addition, the fact that only one course at the first-year level was sampled only in one semester, further limits its generalizability. Results may be quite different for other subjects, such as social sciences, or even with biology at more advanced levels.

Although all the treatment took place at the beginning of the school year when students probably did not know each other, diffusion of treatment or sharing information about the training activity was a threat to internal validity. An actual example of this was given during the audio interviews when a student from North Carolina, who hadn’t participated herself, admitted that another girl had told her about it.

The three researcher-made survey instruments also constitute a threat to internal validity, as they were not pilot-tested or independently checked for reliability and validity. However, the two background questionnaires collected mainly demographic information, rather than measuring a construct, so this was of less concern than it would otherwise be. In fact, this is a moot point, as, contrary to what had originally been anticipated, students were actually randomly assigned to the laboratory classes. In addition, the interview questions were for a descriptive, ethnographic study of individual student perceptions, so again, the reliability and validity of the instrument are not of great concern.

Suggestions for Future Research

Much more research could be done in the general area of preparing freshman to learn effectively from internationals. As this study did not result in quantitatively significant findings, this would certainly be a prime area for future research. Besides
training undergraduates to have better listening skills, they could be taught to delay judgments about people who have different English accents from their own, that is, not to have a “psychological shut-down” and refuse to learn from foreigners, but to meet them half-way to achieve effective learning outcomes. This could be done in Freshman Seminars or similar meetings throughout the first semester of college, in orientation programs before the school year begins, or as part of an on-going required general intercultural communication or diversity training course for students during the whole first year of their college study. Indeed, some schools are beginning to institute exactly these kinds of diversity training and critical listening/communication skills courses for undergraduates. Follow up research, both qualitative and quantitative, on the outcomes of such courses would then certainly be necessary.

Conclusion

The overall results of this study are mixed and inconclusive, though the topic is timely, relevant, and of wide applicability to any situation where people of diverse backgrounds live or work together. Although the unit of analysis was the class, the results of this investigation and the descriptive information from the interviews should prove helpful, not only to individual students and all teaching assistants, but also to parents, professors, and university administrators. However, there is a need for further research, especially of a quantitative nature, to clearly establish and confirm the impact of intercultural training on the satisfaction and achievement of undergraduates taught by international teaching assistants, and indeed of all students taught by faculty members with different cultural and linguistic backgrounds.
If we want to attract the best and brightest from around the world to our universities, as so many of our administrators profess; and if we want to benefit from the presence of internationals among us, we must do our part to optimize learning and share the communication burden. What better way to do this than to prepare freshmen at universities to metaphorically cross over the sea? Long-term intercultural training and familiarization with World English would certainly help young people to develop cultural sensitivity, self-awareness, and critical listening skills, so that, in the words of Rudyard Kipling quoted at the beginning of this study, they too

...may end by (think of it!) looking on We

As only a sort of They!
REFERENCES


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APPENDICES

A. Background Survey of Undergraduates
B. Student Perceptions of Instruction (SPOI)
C. Interview questions
D. Background Survey of Graduate Teaching Assistants
E. Informed Consent Document
F. Informed Consent Document (photo/video)
G. The green banana handout
H. Invitation to prospective interviewees
I. Informed Consent Document (audio)
# APPENDIX A

## Background Survey of Undergraduates

We acknowledge there could be some questions in this survey that you might prefer not to answer, such as gender, SAT scores, or ethnicity. However, as this is anonymous and will be used only for research purposes to investigate differences with other studies, we would really appreciate your answering every question as accurately as possible. Thank you.

1. What is your age?  
   
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2. What is your gender?  
   1 = Female  2 = Male

3. What is your academic level?  
   1 = Freshman  2 = Sophomore  3 = Junior  4 = Senior

4. What is your planned major?  
   1 = Biology  2 = Other life science  3 = Other science  4 = Non-science  5 = Undecided

5. Indicate the range of your combined SAT I (Verbal & Math) scores:  
   
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6. What is your race/ethnic group?  
   1 = Hispanic  2 = African American  3 = Caucasian  4 = Native American  5 = Asian American  6 = Pacific Islander  7 = Mixed  8 = Other  
   If you marked 8, please be specific ________________________________

7. What is your nationality?  
   1 = USA  2 = Other  
   If you marked 2, which country? ________________________________

8. Where were you born?  
   1 = USA  2 = Other  
   If you marked 2, which country? ________________________________
9. What is your birth order?  
1 = First  
2 = Second  
3 = Third  
4 = Fourth  
5 = Fifth  
6 = Sixth  
7 = later  
8 = Only child

10. What language is usually spoken at home? 
1 = English  
2 = Other

If you marked 2, which language? _______________________________________

11. What is your native language?  
1 = English  
2 = Other  
3 = English + other

If you marked 2 or 3, which other language? _____________________________

12. How many foreign languages do you speak fluently? 
1 = One  
2 = Two  
3 = Three  
4 = Four  
5 = None

13. How many foreign languages have you studied in school for at least 1 semester? 
1 = One  
2 = Two  
3 = Three  
4 = Four or more  
5 = None

14. How many school years have you spent studying a foreign language? 
(e.g. French for 1 year & Spanish for 3 years = 4 school years) 
1 = One  
2 = Two  
3 = Three  
4 = Four  
5 = Five  
6 = Six  
7 = Seven  
8 = Eight  
9 = Nine or more  
10 = None

15. Besides foreign language, how many other courses did you take with an international focus? 
1 = One  
2 = Two  
3 = Three  
4 = Four or more  
5 = None

16. Indicate the total length of time you have spent outside the US. 
1 = less than 30 days  
2 = 31 days to 3 months  
3 = 3 months - 1 year  
4 = 1-2 years  
5 = 2-3 years  
6 = 3-5 years  
7 = 5 or more years

17. For stays in excess of 3 months, name the countries in which you lived, indicate the length of time spent there, and state "yes" if the time was spent on a military base. ____________________________

18. What has been your place of longest residence in the US? 
1 = Large city  
2 = Small city  
3 = Suburb  
4 = Town  
5 = Rural area

19. Classify your high school in terms of ethnicity. 
1 = Very diverse  
2 = Diverse  
3 = Somewhat diverse  
4 = Not diverse
20. Before you came to VT, how many friends did you have from foreign countries?
   1 = One       2 = Two       3 = Three       4 = Four or more       5 = None

21. Did your family ever host a foreign student who was not a native-speaker of English? If so, indicate for what length of time.
   1 = One week or less       2 = 1-2 weeks       3 = 2 - 4 weeks
   4 = One month       5 = 1 month - 1 year       6 = More than 1 year

Thank you for answering every question. We appreciate your time and effort! 😊
## APPENDIX B

**Student Perceptions of Instruction**

### How I Rate the Instructor Compared with Others I Have Had at Virginia Tech:

1. Apparent knowledge of subject matter.
2. Success in communicating or explaining subject matter.
3. Degree to which subject matter was made stimulating or relevant.
4. Concern and respect for students as individuals.
5. Fairness in assigning grades.
6. Administration of the class and organization of materials.
7. Overall rating of this instructor.

### How I Rate or Describe This Course Compared with Others I Have Taken at Virginia Tech:

8. Adequacy of textbook and other study materials.
10. Time and effort required.

### How I Rate or Describe My Own Situation and Outcome for This Course:

11. A required course in my major field.
12. A required course outside my major field.
13. An elective to fulfill a requirement.
15. A free elective outside my major field.

### My Academic Level is:

- Freshman
- Sophomore
- Junior
- Senior
- Masters
- Doctoral

### The grade I expect in this course is:

- A
- B
- C
- D
- F

### Supplementary Questions

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**Make Written Comments Here.**

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APPENDIX C

Interview Questions

Interview (Beginning of Spring Semester)  ID #____________________

Date: ______________  Male/ Female  Age: ________

Informed Consent Form: _____  Audio/Video: _____  Nationality: ______________

Recording Details: __________________________________________________________

Check:

First semester at university?  Yes____  No____

First experience with ITA?  Yes____  No____

Details of all courses with TAs/ ITAs?  Biol. Lab: ______________ TA/ ITA  M/ F

Fall:

______________________ TA/ ITA  M/ F  Nationality: _______________________

______________________ TA/ ITA  M/ F  Nationality: _______________________

______________________ TA/ ITA  M/ F  Nationality: _______________________

______________________ TA/ ITA  M/ F  Nationality: _______________________

Spring:

______________________ TA/ ITA  M/ F  Nationality: _______________________

______________________ TA/ ITA  M/ F  Nationality: _______________________

______________________ TA/ ITA  M/ F  Nationality: _______________________

______________________ TA/ ITA  M/ F  Nationality: _______________________

Interview:

1. How would you describe your first-semester in the biology lab class?
(a) What was your best experience with your TA?

(b) What was your worst?

2. Were there any changes in your feelings/attitudes over the course of the semester? Tell me about them.

3. (a) Looking back, what did you think about the first lab meeting in the first week of the semester?

   (b) What do you think about it now?

4. What would have made your first-year biology laboratory class better?

5. Were you happy with your grades?

6. What advice would you give incoming freshmen re biology lab?

7. Please add anything else you would like to share.

   **THANK YOU!**
APPENDIX D

Background Survey of Graduate Teaching Assistants

We acknowledge there could be some questions in this survey that you might prefer not to answer, such as gender, GRE scores, or ethnicity. However, as this is anonymous and will be used only for research purposes to investigate differences with other studies, we would really appreciate your answering every question as accurately as possible. Thank you.

1. What is your age? 1 = 21  2 = 22  3 = 23  4 = 24
   5 = 25  6 = 26  7 = 27  8 = 28
   9 = 29  10 = 30 or above

2. What is your gender? 1 = Female  2 = Male

3. What is your level of graduate study? 1 = First year  2 = Second
   3 = Third  4 = Fourth  5 = Fifth  6 = 6th year or more

4. What is your graduation date? 1 = Dec., 2006  2 = May, 2007
   3 = Dec., 2007  4 = May, 2008
   5 = Dec., 2008  6 = Unknown at this point

5. GRE Score: Math________ Verbal________ Reasoning________
   Don't remember________________________

6. What is your race/ethnic group? 1 = Hispanic  2 = African American
   3 = Caucasian  4 = Native American
   5 = Asian American  6 = Pacific Islander
   7 = Mixed  8 = Other
   If you marked 8, please be specific ____________________________________________

7. What is your nationality? 1 = USA  2 = Other
   If you marked 2, which country? ______________________________________________

8. Where were you born? 1 = USA  2 = Other
   If you marked 2, which country? ______________________________________________

9. What is your birth order? 1 = First  2 = Second  3 = Third  4 = Fourth
   5 = Fifth  6 = Sixth  7 = Later  8 = Only child

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10. What language is usually spoken at home? 1 = English  2 = Other
   If you marked 2, which language? _____________________________

11. What is your native language? 1 = English  2 = Other  3 = English + other
   If you marked 2 or 3, which other language? _____________________________

12. How many foreign languages do you speak fluently? 1 = One  2 = Two  3 = Three  4 = Four  5 = None

13. Indicate if English is your
   1 = Native language  2 = Second native language
   3 = First foreign language  4 = Second foreign language
   5 = Other: Please specify _____________________________

14. How many school years have you spent studying a foreign language?
   (e.g. French for 1 year & Spanish for 3 years = 4 school years)
   1 = One  2 = Two  3 = Three  4 = Four  5 = Five
   6 = Six  7 = Seven  8 = Eight  9 = Nine or more  10 = None

15. Besides foreign language, how many other courses did you take in high school,
    college, or university with an international focus?
    1 = One  2 = Two  3 = Three  4 = Four or more  5 = None

16. Indicate the total length of time you have spent outside your native country.
    1 = less than 30 days  2 = 31 days to 3 months  3 = 3 months – 1 year
    4 = 1-2 years  5 = 2-3 years  6 = 3-5 years
    7 = 5 or more years

17. For stays in excess of 3 months, name the countries in which you lived, indicate the
    length of time spent there, and state “yes” if the time was spent on a military base.

18. What has been your place of longest residence in the US?
    1 = Large city  2 = Small city  3 = Suburb  4 = Town
    5 = Rural area

19. Classify your undergraduate experience in terms of ethnicity.
    1 = Very diverse  2 = Diverse  3 = Somewhat diverse
    4 = Not diverse
20. Before you came to graduate school at VT, how many close friends did you have from countries other than your own?
   1 = One  2 = Two  3 = Three  4 = Four or more  5 = none

21. Did your family ever host a foreign student who was not a native-speaker of your language? If so, indicate for what length of time.
   1 = One week or less  2 = 1-2 weeks  3 = 2-4 weeks
   4 = One month  5 = 1 month-1 year  6 = More than 1 year

22. How many years have you been in the US?
   1 = Up to 1 year  2 = 1-2 years  3 = 2-3 years  4 = 3-4 years
   5 = 4-5 years  6 = 5-7 years  7 = 8-10 years
   8 = 10-12 years  9 = 12-15 years  10 = More than 15 years

23. How many semesters of teaching experience have you had, not counting the present semester?
   1 = One semester  2 = Two semesters  3 = Three semesters
   4 = Four semesters  5 = Five semesters  6 = Six semesters
   7 = Seven semesters  8 = Eight semesters  9 = More than 4 years
   10 = None

24. Number of teaching contact hours each week this semester in addition to this course:
   1 = One  2 = Two  3 = Three  4 = Four  5 = Five
   6 = Six  7 = Seven  8 = Eight  9 = Nine  10 = None

25. Number of teaching hours per week in this course:
   1 = Three  2 = Six  3 = Nine  4 = Twelve

Native Language  1 = English  2 = Other
   Please specify __________________

Thank you for answering every question. We appreciate your time and effort! 😊
APPENDIX E

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent for Participants

Title of Project: Satisfaction and Achievement of Undergraduates

Investigators: Arthur. L. Buikema, Ph.D.
               Kirsten Jensen, M.A., Dip. Ed.

I. Purpose of this Research
The purpose of this form is to give you information that may affect your decision whether to say YES or No to participation in this research, and to record the consent of those who say YES.

This study will explore ways to enhance the satisfaction and achievement of undergraduates in Freshman Biology by providing activities and surveying attitudes and results. Both teaching assistants and undergraduate students will be included.

You should have completed high school but no university study to participate in the undergraduate part of this research project.

II. Procedures
The main part of this study will take place during the first laboratory section meeting of the school year in the Department of Biological Sciences. Procedures will be explained, and participants will fill out consent forms and a background demographic survey. They will join in a group activity and give feedback on it. The group activity in two sections (mainly the activities in two groups of 4 students each) will be digitally video recorded, not for analysis, but for use in a general way as visual illustrations for presentations. Participants in those two sections will be asked to complete a separate and additional Photo/video Informed Consent Document. The usual institutional end-of-course survey responses and biology course grades will be analyzed for correlations to the activities provided. A small number of undergraduates (12-16) will be interviewed individually at the beginning of the Spring Semester for approximately 30 minutes each to get more detailed feedback. Audio recordings will be made of the interviews for analysis purposes. Interviewees will complete additional specific Informed Consent Forms at that time.

III. Risks
As this research involves a regular classroom activity, there are no known physical or psychological risks associated with participation. However, as with any research, there is always the possibility that you may be subject to risks that have not yet been identified.
IV. Benefits
Long-term benefits of this research will be improvements in the satisfaction and achievement of Freshman Biology students.
Short-term benefits to you personally are the possibility of improved communication skills and getting to know your classmates and instructors better.

V. Extent of Anonymity and Confidentiality
After the initial allocation of a Research Participant Number, your anonymity will be maintained. All information about you in this study is strictly confidential, unless disclosure is required by law. The results of this research may be used in reports, presentations, and publications, but the researchers will not identify you. At no time will they release the results of the study to anyone other than individuals working on the project without your written consent. However, it is possible that the Institutional Review Board (IRB) of Virginia Tech may view this study’s collected data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research.

VI. Compensation
The researchers are unable to give you any payment for participation in this study, but they believe that you will find the activity enjoyable and possibly beneficial. There is no course credit for participation.

VII. Freedom to Withdraw
It’s OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away from or withdraw from the study at any time.

VIII. Subject’s Responsibilities
If you voluntarily agree to participate in this study, you have the following responsibilities:
1. Complete the demographic survey honestly and completely.
2. Participate fully in the class activity as directed.

X. Subject’s Permission
By signing this form, you are saying several things. You are saying that you have read this form, that you are satisfied you understand it and the research study described, and that your participation is voluntary. If you have any questions later on, the researchers should be able to answer them.
Most importantly, by signing this form, you are telling the researchers YES, that you agree to participate in this study. You should receive a copy of this form for your records.
Informed Consent Document

Satisfaction and Achievement of Undergraduates in Freshman Biology

I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

________________________________________ Date

Subject signature

________________________________________ Date

Witness

Should I have any pertinent questions about this research or its conduct, and research subjects' rights, and whom to contact in the event of a research-related injury to the subject, I may contact:

Investigator: Ms. Kirsten Jensen (540) 951-5939 jensen04@vt.edu
Faculty Advisor: Dr. Art Buikema (540) 231-5180 buik@vt.edu
Departmental Reviewer: Dr. Fred Benfield (540) 231-5802 benfield@vt.edu
Chair, IRB: Dr. David M. Moore (540) 231-4991 moored@vt.edu

Virginia Tech Institutional Review Board for the Protection of Human Subjects
Office of Research Compliance
1880 Pratt Drive, Suite 2006 (0497)
Blacksburg, VA 24061
APPENDIX F

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent for Participants
For Use of Photo/video materials

Project Title: Satisfaction and Achievement of Undergraduates

Description: This study will explore ways to enhance the satisfaction and achievement of undergraduates in Freshman Biology. The researchers would also like to take digital photos/videos of you participating in the study in order to illustrate the research in teaching, presentations, and/or publications.

Confidentiality: All information obtained about you in this study is strictly confidential, unless disclosure is required by law. The results of this study may be used in reports, presentations, and publications, but the researchers will not identify you. You would also not be identified by name in any use of the photos or videos. Even if you agree to participate in the study, no photographs or video will be taken of you unless you specifically agree to this by signing below. The videos will be stored on disk in a locked file cabinet under the supervision of Dr. Buikema in the Department of Biological Sciences, and only the researchers will have access. They will be destroyed after publication and presentation of findings related to this research.

Voluntary Consent: By signing below, you are granting to the researchers the right to use your likeness, image, appearance and performance – whether recorded on or transferred to videotape, film, slides, photographs, or computer, for presenting or publishing this research. No use of photos or video images will be made other than for professional presentations or publications. The researchers are unable to provide any monetary compensation for use of these materials. You can withdraw your voluntary consent at any time.

For further questions: Please contact the following at any later time:

Dr. Art Buikema (540) 231-5180 buik@vt.edu
Ms. Kirsten Jensen (540) 951-5939 iensen04@vt.edu

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APPENDIX G

THE GREEN BANANA by Donald Batchelder

Any comprehensive list of the fruits of learning should be expanded to include the green banana. No major revision of the curriculum is necessary, but amid the talk of learning and discovery, possibilities should be available to allow discovery to take place.

Although it might have happened anywhere, my encounter with the green banana started on a steep mountain road in the interior of Brazil. My ancient jeep was straining up through spectacular countryside when the radiator began to leak, ten miles from the nearest mechanic. The over-heated engine forced me to stop at the next hamlet, which consisted of a small store and a scattering of houses. People gathered around to look. Three fine streams of hot water spouted from holes in the jacket of the radiator. “That’s easy to fix,” a man said. He sent a boy running for some green bananas. He patted me on the shoulder, assuring me everything would work out. “Green bananas,” he smiled. Everyone agreed.

We exchanged pleasantries while I mulled over the ramifications of the green banana. Asking questions would betray my ignorance, so I remarked on the beauty of the terrain. Huge rock formations, like Sugar Loaf in Rio, rose up all around us “Do you see that tall one right over there?” asked my benefactor, pointing to a particularly tall, slender pinnacle of dark rock. “That rock marks the center of the world.”

I looked to see if he were teasing me, but his face was serious. He in turn inspected me carefully to be sure I grasped the significance of his statement. The occasion demanded some show of recognition on my part. “The center of the world?” I repeated, trying to convey interest if not complete acceptance. He nodded. “The absolute center. Everyone around here knows it.”

At that moment the boy returned with my green bananas. The man sliced one in half and pressed the cut end against the radiator jacket. The banana melted into a glue against the hot metal plugging the leaks instantly. Everyone laughed at my astonishment. They refilled my radiator and gave me extra bananas to take along. An hour later, after one more application of green banana, my radiator and I reached our destination. The local mechanic smiled. “Who taught you about the green banana?” I named the hamlet. “Did they show you the rock marking the center of the world?” he asked. I assured him they had, “My grandfather came from there,” he said, “The exact center. Everyone around here has always known about it.”

I took time to internalize the possible meanings of these events. A roadway led to temporary difficulty, resulting in a discovery which resolved the problem while opening up a whole new perspective of shared belief and
speculation. As a product of American higher education, I had never paid the slightest attention to the green banana, except to regard it as a fruit whose time had not yet come. Suddenly on that mountain road, its time and my need had converged. But as I reflected on it further, I realized that the green banana had been there all along. Its time reached back to the very origins of the banana. The people in that hamlet had known about it for years. My own time had come in relation to it. This chance encounter showed me the special genius of these people, and the special potential of the green banana. I had been wondering for some time about those episodes of clarity which educators like to call “learning moments,” and knew that I had just experienced two of them at once.

The import of the rock marking the center of the world took a while to filter through. I had initially doubted their claim, knowing for a fact that the center was located somewhere in New England. After all, my grandfather had come from there. But gradually I realized they had a valid belief, a universal concept, and I agreed with them. We tend to define the center as that special place where we are known, where we know others, where things mean much to us, and where we ourselves have both identity and meaning; family, school, town and local region. The lesson which gradually filtered through was the simple concept that every place has special meanings for the people in it; every place represents the center of the world. The number of such centers is incalculable, and no one student or traveler can experience all of them, but once a conscious breakthrough to a second center is made, a life-long perspective and collection can begin.

If some of the goals of education in modern times are to open up the possibilities for discovery and expanded learning, and to open up communication and the chances for mutual acceptance and recognition in a wider world, it may be important to offer students a perspective on their own immediate center of the world by enabling them to participate sensitively as cross-cultural sojourners to the center of someone else’s world. The cultures of the world are full of unexpected green bananas with special value and meaning. They have been there for ages, ripening slowly, perhaps waiting patiently for our students to come along to encounter them. There are people there who will interpret the special meanings, give them perspective, combine ideas in new ways, and slice old concepts to answer modern questions. Personal discoveries converge in a flow of learning moments, developing a healthy tug-of-war between that original center of the world from whence the student comes, and the new center being experienced. Eventually the student has a strong sense of identity in two centers, in two cultures. Both have special meanings, and the student has doubled his or her self-awareness and cultural awareness.

There are many ways to go about this. No single formula is suitable for all students, but one program which has been taking students to the center of the world for forty years is provided by The Experiment in International Living. The approach is directly concerned with the roadways which lead to the interior of the
host culture, the conscious recognition of the importance of being in the center of their world, and the attitudes and behaviors which demonstrate that it is a good place and we are lucky to be there.

Throughout the entire exposure in the center of that new world, the way is left open for each Experimenter to discover himself or herself, and to be discovered in turn. In our quest for personal and cultural awareness, for appreciation of the patterns and meanings of other cultures, and for the values of international understanding, every student should have an opportunity to try out those steep roadways to the interior. A green banana is waiting for each of them, there at the center of the world. Every man's grandfather came from there, and everyone around there has always known about it.

January 26, 2007

Dear Student,

You have been randomly selected for an interview as part of the Biology Freshman Lab. research project you participated in at the beginning of fall semester.

This will take place on campus at a time convenient for you, and it will last 25 - 30 minutes. You will be asked to sign a consent and permission form for audio recording, but your identity will be kept confidential, and any information you give would not be identifiable in any way in publications or reports resulting from this project.

Although we cannot give you monetary compensation for your time, we would like to offer you a small but useful gift certificate as a thank-you for your voluntary participation.

PLEASE REPLY TO KIRSTEN JENSEN AS SOON AS POSSIBLE INDICATING THREE DAYS/TIME SLOTS AFTER 1 P.M. YOU ARE AVAILABLE FROM FEBRUARY 1 - 10.

Thank you for your help,

Sincerely,

Kirsten Jensen, Graduate student in Education and Instructor, English Language Institute

Arthur L. Buikema, Jr., Distinguished Professor, Department of Biological Sciences
APPENDIX I

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Informed Consent for Participants
For Audio Recording

Project Title: Satisfaction and Achievement of Undergraduates

Description: This study will explore ways to enhance the satisfaction and achievement of undergraduates in Freshman Biology. The researchers would also like to audio record an interview of approximately 30 minutes with you to get feedback on your participation in this course. The recordings will be analyzed and the data used in teaching, presentations, and/or publications.

Confidentiality: All information obtained about you in this study is strictly confidential, unless disclosure is required by law. The results of this study may be used in reports, presentations, and publications, but the researchers will not identify you. You would also not be identified by name in any use of data from the recordings. Even if you agree to participate in the study, no audio recording will be made of you unless you specifically agree to this by signing below. The recordings will be stored on disk in a locked file cabinet under the supervision of Dr. Buikema in the Department of Biological Sciences, and only the researchers will have access. They will be destroyed after publication and presentation of findings related to this research.

Voluntary Consent: By signing below, you are granting to the researchers the right to use comments and information you provide for presenting or publishing this research. No use of audio recordings will be made other than for professional presentations or publications. The researchers are unable to provide any monetary compensation for use of these materials. You can withdraw your voluntary consent at any time.

For further questions: Please contact the following at any later time:

Dr. Art Buikema  (540) 231-5180  buik@vt.edu
Ms. Kirsten Jensen  (540) 951-5939  jensen04@vt.edu

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VITA
Kirsten JENSEN

EDUCATION:

PhD, Old Dominion University, Norfolk, VA., in Urban Services Higher Education Leadership with a focus on International Education, August, 2007

Dissertation: “The impact of intercultural training on the satisfaction and achievement of undergraduates taught by international teaching assistants.”

This research was conducted with Freshman Biology students and graduate teaching assistants in the Department of Biological Sciences at Virginia Tech.

NJ Permanent Language Teaching Certification, K-12 in Japanese & German, 1977

Diploma in Education, University of Queensland, & Australian Foreign Language Teaching Certification, K-12 in Japanese, & German 1973

MA (by thesis), University of Queensland, German Language & Literature, 1972

BA (Honors - First Class), University of Queensland, Double Major in Japanese & German, 1970.

CURRENT POSITION:

Instructor of English as a Second Language, Japanese, & German;

Joint Coordinator of intercultural training programs for incoming ESL students;

Editor of technical & academic ESL writing for faculty members, researchers, and graduate students,

The English Language Institute at Virginia Tech., since August, 2004

Instructor of Japanese, Open University, YMCA at Virginia Tech., 2004-06

PREVIOUS POSITION:

Founder and Director of the Japanese Language Program and Teacher of Japanese & German, Cape Henry Collegiate School, VA Beach, VA, 1995-2004

OTHER EXPERIENCE:

Teacher Trainer, Special Intensive TESL course for professors of King Abdulaziz University, Jeddah, Saudi Arabia, held at Virginia Tech., July-August, 2005
Associate Director, VA Governor's Academy for Japanese, 1995

Adjunct Associate Professor, Japanese, County College of Morris, Randolph, NJ, 1993-94

Adjunct Instructor, Japanese, & External Affairs Consultant on ESL and International Programs, Centenary College, Hackettstown, NJ, 1993-94

Intercultural Consultant & Trainer, Tokyo Kokusai Tsushin & Associates, Tokyo, Japan, 1991-93

Teacher of English through Cooking, Tokyo Gas Kitchen Club, 1991-93

Adjunct Professor of EFL, Obirin College, Tokyo, 1990-93

President of Japan Interlink, NJ, (Provided corporate and educational training programs; did all activities involved in marketing, planning, and managing a small business; gave numerous presentations, e.g. at Chambers of Commerce, Rotary Club, International Trade Center, Heath Village Retirement Community, Japan-US Society), 1987-90

Director of ESL & Coordinator of annual 6-week Intensive Program for Students from Obirin College, Tokyo, Centenary College, NJ, 1987-90, 1994

Teacher of Japanese & German, 1 yr. F/T, 8 yrs. P/T, Australia & USA, 1968-97

Adjunct Professor of ESL, Japanese, & German, 14 yrs. diversified experience, Centenary College & Raritan Valley Community College, NJ, and University of Queensland, Brisbane, Australia, 1968-90

Course Coordinator & Teacher, Australian Federal Government Special Intensive English Courses for Skilled Professional Immigrants, 1971-73

PROFESSIONAL:

President, 1996-2001, & Secretary, 1994-96, VA Association of Teachers of Japanese, now Mid-Atlantic Association (MAATJ)

Executive Board Member, Foreign Languages Association of Virginia (FLAVA), 1996-2001

Current Member, VATESOL (Teachers of English to Speakers of Other Languages) & MAATJ

Presenter at regional, state, & national professional conferences, e.g. FLAVA, ACTFL (American Council on the Teaching of Foreign Languages), TESOL, and International SIETAR (Society for Intercultural Education, Training, and Research), NAFSA (National Association for International Educators)
Selected Participant in Advanced Teacher Institutes: The Japan Foundation, Santa Monica, CA (2 weeks, 1997), and Urawa, Japan (9 weeks, 1999); The AATJ/ National Institute for Multimedia Education, Chiba, Japan (6 weeks, 2002).

Participant in numerous short professional development workshops, sometimes as presenter/trainer and sometimes as learner. Most recently attended two 5-hour workshops at Virginia Tech:

“Managing in a Multicultural Environment: Tools for Engagement” on January 26, 2007 (Continuing and Professional Education) and

“The Politics of Language: English Learners in the Classroom” on February 24, 2007 (Center for Excellence in Undergraduate Teaching).

COMPUTER SKILLS: PC: Microsoft Word, Excel, Power Point, Adobe Premiere Video Editing, SPSS statistical package, Audacity Audio Program, basic Japanese language word processing. Also basic English and Japanese language on Mac OS.

LANGUAGES: English (native language), German, Japanese, French, basic Spanish

RELATED ACTIVITIES:
Successful grant writer & editor of newsletter for teaching faculty
Sponsor & mentor for numerous student clubs & organizations
Planner & leader of educational exchange programs in the US & Japan
Organizer of many local field trips & activities for students
Trainer of corporate employees, educators, & home stay families
Liaison for development of US – Japan “sister school” relationships
Member of regional high school district strategic planning team
PUBLICATIONS: (under name Kirsten CAIS)


(1969). Queensland Germans or German Queenslanders? Stimmen, 1, No. 1, Brisbane, University of Queensland.