TECHNICAL COMMUNICATION LEARNING ON THE U.S.-MEXICO
BORDER: FACTORS AFFECTING CROSS-CULTURAL
COMPETENCE IN GLOBALIZED SETTINGS

by

CARLOS EVIA, L.C.C., M.S.C.

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ABSTRACT

This dissertation studies the way in which instructors and students in border universities deal with multiculturalism in the introductory course to technical communication. It addresses the need for a proper balance between embracing the students' native cultural elements and teaching them formal American writing in order to maintain the cross-cultural competence in the multicultural technical communication classroom. Specifically, it analyzes the way in which technical communication is being learned in the U.S.-Mexico border, trying to determine (a) if nonimmigrant Mexican students are able to perform satisfactorily in American technical communication courses, (b) what are the positive contributions of those nonimmigrant Mexican students to the multicultural environment in the classroom, (c) what factors could make Mexican students perform better in technical communication courses, and (d) how are the instructors addressing the multicultural nature of the student body in border classes.

The research took place in the El Paso-Las Cruces/Ciudad Juarez border zone during the summer and fall academic terms of 2003, and was conducted at two American higher education institutions (New Mexico State University and the University of Texas at El Paso) with considerable Mexican enrollment in their sections of the introductory course to technical communication. The study's methodological triangulation included the following data gathering techniques: interviews with instructors, a survey to measure the level of cross-cultural competence among the students (based on the model of cultural

differences developed by Trompenaars and Hampden-Turner), assessment of students' writing samples, and focus group sessions with students.

The main findings were that Mexican students in the population studied did not have a sense of purpose in their writing. Their documents were mostly about format and presentation, but they did not take under consideration the audience's needs for information. Also, the research reported that experiences with previous English and writing courses create differences between American and international students.

This dissertation provides the field of technical communication a new way to look at cultural differences that would normally be considered as subtle, thus creating awareness for cases with more dissimilar cultures. It also emphasizes the differences between teaching about multicultural audiences and teaching to multicultural audiences.

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CHAPTER I

INTRODUCTION TO SUBTLE AND OBVIOUS CULTURAL DIFFERENCES

Introduction

I was born in Mexico and lived there until 2000, when I moved to the United States in order to study in a doctorate program in technical communication. In Mexico, I took English classes starting in kindergarten, and I have been bilingual since I was in elementary school. As a result, when I first walked into a classroom as an international student in an American university, I was confident of my English skills and did not expect to have serious problems with my writing assignments. After all, I had been a writer for more than 10 years in Mexico, doing a considerable part of my work in English. Alas, although my first papers as a doctoral student in Technical Communication and Rhetoric did not have notorious English as a Foreign Language (ESL) problems, there was something not quite right with them. My papers, grammatically correct, were affected by cultural differences in my understanding of the genres. For example, I knew what a proposal was and I had written dozens of them in my country. But my proposals (in which the thesis statement came only after a whole page of introduction and background) were not what my American professors were expecting.

This dissertation addresses the importance of understanding and reconciling cultural differences in academic environments teaching technical or professional communication. I claim that, regardless of their degree of intensity, all cultural differences must be dealt with in order to create a cross-culturally competent system of

individuals working towards a common goal. Going back to my initial anecdote, my professors did not expect serious cultural differences when reviewing my writing, but some of them felt the need to explain in additional detail every assignment to my Eastern European or Asian classmates. Many researchers in the field of multicultural studies (Hofstede, Trompenaars and Hampden-Turner, Hall, among others) would have approved the job performed by my professors. In search for impact to support their claims, these researchers tend to emphasize obvious differences between groups that are poles apart. Therefore, the most common examples of cultural differences are based on the disparities among Western and Eastern nations, conservative and liberal groups, and rich and poor communities, to mention a few.

Little attention is paid, thus, to more subtle cultural differences, especially when it comes to neighboring countries. For example, the degree of intensity in the frequently studied differences between the United States of America and Japan is higher than that of the dissimilarities among the United States and Canada. After all, Americans and Canadians speak the same language, watch the same programs on television and the same movies in theaters, and have pretty similar diets and communication habits. On the other hand, American and Japanese individuals have huge gaps of understanding in language (spoken or written), have different tastes and expectations in entertainment products, eat things that they would consider mutually “exotic,” and often require studying the other culture in order to communicate with it.

Not immune to this situation, the field of technical and professional communication has also made cross-cultural studies a relevant research topic. Lovitt

writes that “the explosion of interest in international professional communication represents one of the most dramatic developments in the fields of business and technical communication over the past decade” (1). Nevertheless, as Tebeaux observes, “the bulk of these studies have focused on Pacific Rim countries” (49). A quick look at recent issues of the most popular journals and publications in the field will indeed show a high number of articles devoted to cross-cultural issues. Yet, and following the general trend, most of the articles would focus on cultural differences of a high degree of intensity. Particularly, the manuscripts concentrate on the problems that American technical writers face when dealing with audiences belonging to other cultures, mainly Asian. For example, as of the summer of 2003, *Technical Communication*, the journal of the Society for Technical Communication (STC), has published since 1999 at least eight articles about China (including a special edition titled “Technical Communication in China,” in 2001), and only one about Latin America.

These patterns in research and publication prompted me to ask: “What about Mexico?” As in the example about Canada above, cultural differences between the United States and its neighbor Mexico have a low degree of intensity. Although these countries speak different languages, post-North American Free Trade Agreement (NAFTA) Mexico has seen in recent years a “widespread availability of English language schools” in its cities (Sackmary and Scalia). As a result of NAFTA, “in 1998 Mexico eclipsed Japan as the second largest export market for the U.S., even though the Mexican economy is just one-seventh the size of Japan’s” (Greer and Stephens 52). Regarding food, some dishes of Mexican cuisine are as popular as pizza and hamburgers in many

American cities. Condon writes that “fast food chains featuring tacos or burritos now dot the U.S. landscape, just as the hamburger, pancake and fried chicken dispensaries have emerged in the south” (xvi). Regarding entertainment products, American television shows and movies are the mainstream form of entertainment in Mexico, and the American Academy of Motion Picture Arts and Sciences recently gave an Oscar nomination to a Mexican film in one of its main categories, instead of putting it in the foreign-language section.¹ Furthermore, Mexican pop singer Paulina Rubio’s first English language album, “Border Girl,” was certified gold by the Recording Industry Association of America in the Fall of 2002.

Just like it could happen with the Canadians, researchers in cross-cultural communication assume that Americans and Mexicans (at least those who do not belong to poor communities) have so many things in common that their cultural differences are of a very low degree of intensity and, hence, irrelevant. However, “despite the intertwining of population, culture and destiny, there is still a great gap in understanding [between American and Mexican cultures]” (Condon xvi). This is evident in the field of technical communication, where very few authors conduct research regarding cultural differences between Americans and Mexicans. Those few authors that have written about the topic acknowledge that “given Mexico’s proximity to the United States and its status as a major emerging market, understanding Mexican business communication is critical” (Tebeaux 49-50).

¹ The Mexican movie “Y Tu Mamá También” was nominated for the Best Original Screenplay Oscar in February of 2003. Interestingly, it lost to another Spanish language movie: “Hable con Ella,” from Spain.

Its interest (or lack of) in Mexican culture notwithstanding, technical communication teaching in America has more general problems with cross-cultural and international issues. From the undergraduate “service course” to graduate seminars, instructors and textbooks in the field frequently include elements about international technical communication. Even so, commenting on the content about international topics in textbooks from the field, Bosley mentions that their “tendency is to discuss international issues as if they functioned separately from our own cultural assumptions” (2). Habitually, the literature assumes that the average student in the American technical writing course is a native English speaker who needs to be more “sensitive” about international issues. This approach might not be the best when the classroom has a significant number of international students from the same country. Charney, writing about Thatcher’s research work on technical communication in Latin America, identifies the need for questioning “our reliance on US discourse patterns in studies of cross-cultural workplace communication” as a key area for research in technical communication (268).

Hence, the research in the field offers a limited understanding of how to achieve cross-cultural competence in the technical communication classroom, and the particular need for understanding and reconciling cultural differences among students of technical communication in a Mexican-American environment. This dissertation intends to answer Thrush’s call for a “framework for looking at cultures, a framework that will help technical communicators make reasonable hypotheses about how members of [any given] culture will communicate and how they will receive and interpret attempts at

communication” (Thrush, “Multicultural” 163). Looking for such a framework, this chapter will illuminate the incomplete picture offered by existing research, relating it to my personal experience, and looking at the field of multicultural studies. This chapter will also introduce the research methods I used to examine this critical issue for the field, and present an overview of the remaining chapters in the dissertation.

Cultural Differences and International Students in American Technical Communication Programs: A Personal Experience

The literature on cultural studies has plenty of information to explain the problem I had with my proposal when I first became a graduate student in an American university. Hall, for example, introduced the concepts of high-context and low-context cultures in 1976. He writes that a high-context message puts very little information in the coded part, and most of it remains in the physical context of the process. On the other hand, in a low-context message “the mass of the information is vested in the explicit code” (Hall 91). In an example to illustrate his point about context using legal systems of different countries, Hall affirms that America is “the epitome of low-context systems” (107). Trompenaars, another researcher in the field of multicultural studies, offers another explanation that illuminates the lack of effectiveness of my proposal. In his model for analyzing cultural differences, Trompenaars included a dimension labeled “specific versus diffuse,” which he relates to Hall’s work by acknowledging that “specific and diffuse cultures are sometimes called *low* and *high* context” (Trompenaars and Hampden-Turner, *Riding* 92). In addition, he identified Mexico as a “typically diffuse” culture (Trompenaars and

Hampden-Turner 91). Applied to written communication, specific/low-context cultures “will start with the ‘executive summary’ and make bullet statements,” while in diffuse/high-context ones, “you start with Aristotle on page 1 to explain inflation in Ireland on page 26 —if you are lucky” (Trompenaars, *Cross-Cultural*).

When I received my graded proposal, I was concerned that my performance was affecting the overall classroom environment. To complicate things, I was not the only foreign student in the classroom, which also had people from Canada, China, Moldova, and Taiwan, besides the majority of American classmates. In such a multicultural setting:

- How could we avoid the negative effects of cultural differences?
- Whose job was it to be aware of those differences and try to reconcile them? Was it the students’, who were busy enough with their writing assignments?
- Or was it the instructor’s, who was busy enough trying to over-explain concepts of the lecture and projects for the diverse audience?
- Were we a real system of students working towards the same goal, or were we a multicultural chaos?
- What was the degree of cross-cultural competence in our globalized setting?

Those first experiences as a student in this country inspired this dissertation, which attempts to address the effects of multiculturalism in the level of cross-cultural competence in the technical writing classroom. Although my experiences happened in a graduate program, I think those differences should be identified at an earlier stage, and thus I concentrated my analysis on the undergraduate technical writing introductory course. The main reason behind that decision is that unlike those of first-year

composition or other English courses, the documents produced in the technical writing course must follow precise formats. As I have experienced, cultural differences in writing classes tend to be more evident when working with specific models. However, following Thatcher's call to distinguish "broad rhetorical and cultural patterns from regional, organizational, and personal patterns" (459), my research looked specifically at the way in which multiculturalism affects technical communication learning on the US-Mexico border. I decided this based on (a) my bilingual background in English and Spanish, (b) the exigency for this problem in Texas, where even though it is normal to find a good number of Mexican or Mexican-American students in writing classes, this type of study is unusual, and (c) the possibility of generalizing my findings to other cultures and environments.

As mentioned before, an easy explanation for a breakdown in international students' performance on technical writing classes can be based on cultural differences. Verluyten points out a "discrepancy between the cultural background of the author of the textbooks and the trainer on the one hand, and the cultural background of the trainees on the other" (191). After all, higher education institutions in the United States work with a primary audience of native English-speaking students and international students are regarded as the exception. In the most frequent situation, an American university would have a few international students from random countries in technical writing classes sitting next to the majority of native English-speaking students. Nevertheless, as Verluyten implies, if a homogeneous group of international students becomes a dominant or significant part of the audience, the use of models and teaching methods based on

cultural differences lose effectiveness. The **binary opposition** of minority and majority meets an **undecidable** demanding to be analyzed under a new scope.

That would be the situation of Mexican nonimmigrant students enrolled in academic programs at border universities in the United States. Actually, in border universities the binary is not as simple as specific/low-context/Americans versus diffuse/high-context/Mexicans. The following section will look at the factors affecting that apparently simple division.

Mexican, American, Mexican-American, and Other Cultures Represented in Technical Communication Border Classes

On May 3, 2002, President George W. Bush hosted a celebration of the *Cinco de Mayo* Mexican holiday at the White House. Just like he did in May of 2001, when he delivered a historic radio address to the nation in both English and Spanish, President Bush emphasized the importance of the relationships between the United States and Mexico. In his speech during the 2002 celebration, he said: “By their strong values and their determination to create a better life for themselves and their children, immigrants from Mexico enrich American life” (“President Commemorates Cinco de Mayo”). Even with all its positive aspects, Mexican immigration is a very complex topic and the first that comes to mind when thinking about the U.S.-Mexico border. It is a border that Mexican writer Carlos Fuentes describes as “a cultural frontier where two different civilizations face, challenge, and enrich each other [...] a labor frontier, with five thousand Mexican workers, both legal and illegal, crossing each day” (159).

Whereas President Bush's remark focuses exclusively on Mexican immigrants, Fuentes mentions a wider and less restricted flow of individuals, which might also include nonimmigrant Mexican individuals crossing the border every day. The term nonimmigrant, according to U.S. Citizenship and Immigration Services (USCIS; formerly Immigration and Naturalization Service), applies to "an alien who seeks temporary entry to the United States for a specific purpose. The alien must have a permanent residence abroad [...] and qualify for the nonimmigrant classification sought" ("Glossary"). USCIS adds that the classification of nonimmigrant alien applies to a wide variety of visitors, including tourists, foreign government officials, and students.

In its annual report for 2002, the Institute of International Education (IIE) states that the number of international students attending colleges and universities in the United States increased by 6.4% compared to the previous year. According to the report, the total population of foreign students in America for 2002 was "a new record high of 582,996" individuals—all of them nonimmigrant aliens ("Open"). The report mentions that the Mexican presence in American institutions of higher education showed a strong increase of 17%, totaling 12,518 students in 2002. Many of those students were enrolled in academic programs in border town universities. For example, the Federal Register points out that El Paso Community College alone has "an enrollment of some 2,400" nonimmigrant part-time commuter students ("Reduced").

Many of those students commute from northern states in Mexico to take classes in "sister" cities in America. Trapped in a physical **borderland**, these students come from Spanish speaking homes to receive education in English, and they will go back to the

globalized workplace to perform in Spanish, English, or even both at the same time in *maquiladoras* or companies with transnational interests. As part of their degree plans, and depending on their majors or fields of specialization, many of the nonimmigrant students will take at least one course in technical or professional writing. Miles writes that the field has “become increasingly populated by non-native speakers of English. In many cases, our technical, business, and professional writing classes are required for degrees in engineering, business, and computer technology, all of which are serving higher numbers of international students” (179). Going beyond the contents of first-year composition and ESL classes, the technical writing service course “may be the most important writing experience for the majority of students” (Nagelhout 286).

In a multicultural technical communication class, a student might find classmates from different cultural and ethnic groups (white American, Mexican-American, African-American, Asian-American, international students from countries other than Mexico, among others). Regardless of their background, however, all the students will need to use proper American English in the context of the class. Facing a situation like this, and performing according to the “Western perspective of the intercultural communication class” (Verluyten 207), the technical writing instructor might either (a) assume that the Mexican students will “rise to the occasion” and perform as native English speakers, or (b) “tone down” the class by spending extra time on explaining concepts and assignments, as proposed by Cook (18), even if the native English speaking sector of the audience does not need the additional explanations. From my perspective, any of those options would affect the outcome of the class and the students’ understanding of the fundamental genres

of technical communication. Likewise, in a globalized setting like a classroom in a border university, probably some students, regardless of their ethnicity, want to be exposed to the multicultural environment of the zone. Thus, a forced, unnatural, homogenization of students to make them all perform disconnected from their native cultures might also have a negative effect on the multicultural setting.

Importance of the Study

In a world economy driven by American culture and politics, foreign students with a degree from an American institution, whether they go back to their countries or find jobs in the United States upon graduation, will be expected to write effectively in the globalized workplace because they were exposed to the essence of American English. Alas, if the students' experience with technical writing in college was not a successful one, then those expectations about written communication might not be fulfilled. Similarly, the existing literature on including foreign individuals in American technical communication environments might not be very practical for classroom problems. In her article "Enhancing the Participation of Foreign-Born Professionals in U.S. Business and Technology," Cook offers some recommendations for managers of multicultural teams, which can also be applied to instructors of multicultural classrooms. Cook includes some "recommendations for managers and peers" in multicultural groups (18). Whereas some of them are a must to follow (check comprehension by foreign listeners during a discussion and not wait until its end, provide follow-up documents, refrain from laughing at errors, etc.), others might not succeed in the technical writing classroom.

When Cook asks to “shorten meetings and speak more slowly to increase ease of processing information,” and “avoid using jargon or slang” (18), she might be enhancing the existing cultural differences in detriment of the group’s harmony and effectiveness. Shortening meetings or speaking slowly might irritate the native English speaking students or affect the allotted time for introducing key concepts of the syllabus; avoiding the use of jargon would go against the foundations of the class, which include teaching the students to identify jargon and rephrase it for their audience. Ultimately, in a classroom with a strong foreign presence, if the service course instructor were to teach following the recommendations of the existing literature on international technical communication, it could affect the cross-cultural competence of the classroom as a working team in a globalized setting.

Furthermore, another element adding importance to the topic is that after the terrorist attacks of September 11, 2001, USCIS is applying stricter requirements and obligations for international students in the United States. Commuter students will perform under “a regulated, controlled process” (“INS Announces”), and thus the work in the classroom has to be optimal and satisfy their education requirements while maintaining the working environment’s cross-cultural competence. Hence, if the international students’ experience with the technical communication service course is not effective, it will not only affect their ability to “write clearly in the work of their professions” (Riordan 245), but it will also be a waste of time, money, and effort.

Definitions

This dissertation uses the term **cross-cultural competence** (or transcultural competence) in the same way as Trompenaars and Hampden-Turner use it in their publications. However, whereas they apply it to issues of management and producing wealth, I applied it to the environment of multicultural technical communication classes. These authors have defined the term in the following way:

(We) argue that business cultures are so different as to be in some respects diametrically opposed and that because business is run differently around the globe, we need different managerial and leadership competencies. Yet from those differences, from that seeming Babel of discordant values, there is emerging a new capacity for bridging business differences. We call this *transcultural competence*. (Trompenaars and Hampden-Turner, *21 Leaders* 14)

Although a significant part of my dissertation is based on existing databases and questionnaires about cultural differences among countries,² the main purpose of my work is not to point out cultural differences between genres of technical communication of Mexico and the United States. Victor distinguishes between the terms international and cross-cultural as applied to communication by saying that the former means “between or among nation-states.” and the latter means “between or among cultural groups” (12). This dissertation is about the cross-cultural environment of the many cultural groups represented in technical communication classes at American universities on the Mexico-U.S. border. Thus, it is not exclusively about differences between Mexicans and Americans. I have decided to write about a mostly Hispanic cultural zone because,

² Chapters II and III expand, respectively, the influence of the cultural databases and questionnaires developed by Hofstede and Trompenaars in this dissertation’s literature review and methodology.

according to data from the United States Census 2000, Hispanics represent 12.5% of the total U.S. population, with individuals of Mexican origin representing 7.3% of the total population (“American FactFinder”), making that group the second largest minority in the country. I have decided to write about technical communication because, unlike other forms of communication and writing, it is based on strict genres that are susceptible to cultural differences. Nevertheless, I hope the results of my study can be applied to other multicultural environments and other disciplines in similar globalized settings.

By **globalized setting**, it should be understood that it is a place affected by globalization. This dissertation does not define globalization as it is frequently included in technical communication literature as “the process of creating a product that can be used successfully in many cultural contexts without modification” (Hoft 24). The dissertation assumes that such a definition is incomplete because it omits that the product should be in American English—with all the controversies and arguments that it could carry. As explained by Thomas L. Friedman in *The Lexus and the Olive Tree*, globalization is “dominated by American power, American culture, the American dollar and the American navy” (xix). Hence, globalization applied to technical communication in the context of this dissertation means more adapting *the audience* to American English rhetoric and genres. Some might compare globalization to cultural imperialism, defining it as a process “in which the West (or America, or transnational capitalism) draws all cultures into its ambit” (Tomlinson 174). But globalization in international communication should be more about working in a common language for business and technical transactions, and international students taking courses in technical

communication in American universities need to understand the concept of globalization in those terms. However, it is a fact that just mentioning that English could be a universal language is sure to stir controversy and divide the audience. On the one hand, some authors in the discipline defend English's universality in scientific and technical writing. Regarding that subject, Eisenberg writes, "English has become the international language of science. [...]. It has vanquished its linguistic rivals to become the lingua franca of international scientific publication" (2). But on the other hand, some reject that concept and advocate translation over the use of an original document written in English. Weiss, defending this second perspective, writes about the lack of interest for translation in the field and mentions that "an understanding of translation, however, is important to professional communicators and to teachers of business and technical communication" (277).

Determining if globalization is good or bad for all the world, and reconciling the dilemma regarding the use of English as a universal language in technical communication are topics beyond the scope of this dissertation. International students taking the service course in technical communication break the patterns expected from that debate. Their being in the United States registered for a class in writing implies their acceptance of English as a global working language—even if it is temporary and only for academic or professional goals. Hence, they do not (or should not) require translated versions of their textbooks and course materials. In their situation, they do not fit the profile of foreign individuals described in theories based on cultural differences. That assumption alone is a clear invitation for paying attention to the cultural points of contact among international

and local students. Chapter III includes proper identification of the research variables and offers operational definitions of the concepts to be measured.

Technical Communication Courses in El Paso-Las Cruces/Ciudad Juárez

Specifically, this dissertation studied the way in which technical communication is being learned in the *sui generis* culture of the U.S.-Mexico border. Hofstede defines culture as “the collective programming of the mind which distinguishes the members of one group or category of people from another” (*Culture's* 9). The population studied in this dissertation belongs to the cultural group of students enrolled in the technical communication introductory course at two public universities in American towns close to the U.S.-Mexico border. Of course, the students also belong to other cultural groups with different “collective programming” patterns, based on their country of birth, ethnicity, gender, and socio-economic level, but the purpose of the dissertation was to observe them as part of the same culture, in a setting enriched by the intersections of all the other groups they also represent. Hence, instead of trying to make the Mexican students act like Americans or vice versa, the dissertation was looking for the characteristics of the “ideal citizen” for that culture. A key assumption of my study is that by being aware of the existing cultural differences in the multicultural technical communication classroom, and by developing methods to reconcile them, each student could be **complemented** to become that ideal citizen and enhance the group’s degree of cross-cultural competence. My research was performed at the departments of English of the University of Texas El Paso (UTEP) and New Mexico State University (NMSU). The methods used included

interviews with instructors and program administrators related to the technical writing course; application of a survey for students (regardless of their cultural background) based on the dimensions of cultural differences introduced by Trompenaars and Hampden-Turner, focus groups to explore interactions among students and instructors in the classroom, and quantitative/qualitative examination of students' documents produced in that class. Chapter III explains the methods employed in detail, and it also describes the setting and specific actors of the research process.

In the city of El Paso, Texas, the Hispanic population represents "75.70 percent of the town's 685,500 living at the foot of the Franklin Mountains" ("Top 10"). UTEP is a public university founded in 1913. It offers bachelor's, master's, and doctorate degrees. Regarding its undergraduate student body, 72% is Hispanic, and 12% is international ("America's Best Colleges" 296). Most of the students in that 12% are "Mexican nationals who cross the border everyday to take classes at UTEP" (Scenters-Zapico, personal interview). According to UTEP's website, most of those international students are Mexican nationals, representing 10.4% of the student population. In the field of technical or professional communication, UTEP offers the following programs, inside its Department of English:

Bachelor of Arts in English with a minor in Professional Writing and Rhetoric

Master of Arts in Professional Writing and Rhetoric

Certificate in Bilingual Professional Writing.

Las Cruces, New Mexico, “has 165,000 residents, 59.53 percent of whom are Latin” (“Top 10”). NMSU is a public university founded in 1888. It offers associate, bachelor’s, master’s, and doctorate degrees. Regarding its undergraduate student body, 43% is Hispanic, and 1% is international (“America’s Best Colleges” 231). In the field of technical or professional communication, NMSU offers the following programs, inside its Department of English:

Bachelor of Arts in English with a minor in Technical and Professional Communication

Master of Arts Degree in English: Emphasis in Technical and Professional Communication

Doctorate in Rhetoric and Professional Communication.

Regardless of their degree programs in technical communication, I conducted my research exclusively in the undergraduate introductory class, also known as the “service course.” The reason for this decision is that the service course is taken by students from many majors other than technical or professional communication. Hence, my population is broad, instead of field-specific, which should facilitate the application of my findings to other similar situations. Chapter II includes a thorough literature review regarding the technical communication service course.

As I mentioned earlier, Chapter III gives more specifications about the schools selected for the study and the measuring tools employed to answer my research questions, which will be introduced in the next section.

Research Questions

The main purpose of this research was to study the way in which technical communication is being learned in the unique culture of the El Paso/Las Cruces-Ciudad Juarez area. It was also a research objective to determine whether the sets comprised by nonimmigrant Mexican students and Mexican-American students are able to perform satisfactorily in American technical communication courses despite the cultural differences in the classroom. However, the study avoided making general assumptions about the whole population. In other words, I did not expect to see all the Mexican students behaving the same way, just as I did not expect to see all the American students behaving the same way. Thus, forecasting that the students (regardless of their nationality or cultural background) would display different levels of cross-cultural competence, this study also sought to identify the elements that could make some students perform better than others (i.e., to obtain higher grades in their writing assignments). Likewise, the study looked at the positive contributions of the Mexican students to the intercultural environment in the classroom, which would complement the American students in order to become the ideal citizen of that specific globalized setting.

The primary research question was:

Which cultural and rhetorical factors affect the nonimmigrant Mexican and Mexican-American students' ability to learn how to produce and consume technical documents in an American technical communication service course? My main concern was to evaluate the nonimmigrant students' ability to represent and interpret the fundamentals of technical communication as it is taught in the United States of America.

As Tebeaux, Condon, and Thatcher, among others, have stated, the genres of professional communication mean different things to American and Latin-American audiences. I wanted to overcome the apparent irrelevance of the subtle cultural differences between Mexico and the U.S. in this discipline. Hence, looking for an answer for this research question I focused on cultural and rhetorical factors affecting the Mexican and Mexican-American students' performance in the classroom.

In order to answer that main research questions, I also had to answer the following:

How does the high presence of nonimmigrant Mexican and Mexican-American students affect, for better or worse, the cross-cultural competence in the technical communication service course in border universities? Technical communicators tend to treat cultural differences as a problem, be it in academic or workplace environments. As Chapter II will demonstrate, most of the literature in the field regarding international issues is based on problem-solving techniques to fix communication breakdowns caused by cultural differences. My experience as an international student of technical communication in the U.S. could also be used as evidence for the problematic nature of cultural differences in this field. However, in a highly multicultural classroom, one where the "minority" students become the majority, those cultural differences might be part of the everyday work and, actually, become a good thing. This research question looks at the positive and negative results of having a high presence of international students in a technical communication learning environment.

What additional characteristics do native English-speaking students possess compared to their nonimmigrant Mexican classmates for obtaining higher grades in the technical communication service course? Going back to my idea of seeing the students as belonging to cultural sets inside a bigger, unique culture, this question attempts to establish the contents of a complementary set that would lead towards developing the profile of the ideal citizen in the culture of technical communication students in border schools, regardless of original nationality or ethnicity. This question assumes that in an American university a native-English speaking student could obtain a higher grade than an international classmate in a technical communication class. However, I am aware that many native-English speaking students might also be affected by cultural differences in their understanding of the technical communication genres, based on prior education, socioeconomic variables, and other factors.

What additional characteristics do high performing Mexican nonimmigrant students possess compared to their low-performing fellow citizens for obtaining higher grades in the technical communication service course? Following the idea of finding the complement to achieve general cross-cultural competence in the bigger set of students, this question looks at the differences among Mexican nonimmigrant students. As mentioned before, I did not assume that the students would behave according to stereotypes and perform in the same way because of their nationality or background. Based on the works of Hofstede and Trompenaars and Hampden-Turner, I did include some general characteristics of each culture represented; however, I never expected a

uniform response from all the cultures represented in the study. Chapter II specifies my application of existing cultural models to this dissertation.

How are the technical communication service course instructors in border universities addressing the diversity in the classroom's audience? In an academic setting, the instructors adopt the role of managers and it should be their responsibility to make the students functional as a group, despite cultural or rhetorical differences. However, there is not much written about the specific role of the technical communication instructor in a highly multicultural classroom. I assumed that, facing that type of situation everyday, the service course instructors in border universities had a special way of addressing those problems, which could be adapted and applied to other similar environments.

The following section offers a brief description of the contents of each chapter in this dissertation.

Brief Description of Chapters' Contents

Chapter II: Literature Review

This chapter contains two main sections: (1) Theoretical Foundation of the Study, and (2) Prior Research on Topic. The first one compares the models for studying cultural differences introduced by Geert Hofstede and Fons Trompenaars and Charles Hampden-Turner. It also mentions the way in which those models were used in my research. The first section also looks at the steps recommended by Trompenaars and Hampden-Turner in the process of identifying, respecting, and reconciling cultural differences. The second section looks at three lines of research related to the dissertation:

Previous studies conducted regarding the need for more multicultural coverage in technical communication classes. The dissertation paid special attention to the works of Tippens, Miles, and Thrush, who wrote specifically about the service course.

Sources about the rhetorical and cultural differences between the United States and Mexico. These include publications by Greer and Stephens, Tebeaux, and Thatcher, among others.

Work related to the term cross-cultural competence, contextualizing it for the specific case of the U.S.-Mexico border. The most important texts for this section were by Abbott and Moran.

Chapter III: Methodology

This chapter introduces the hypotheses (propositions), variables, and operational definitions generated by the research questions. It also includes a detailed taxonomy of the study, classifying it as a case study with descriptive and causal components. It describes the population and settings in which the research was conducted.

Chapter III lists and explains the measurement tools used to gather data, which include a survey employed to measure the level of cross-cultural competence in the classroom, interviews with instructors, focus group sessions, and quantitative group grading and qualitative analysis of sample technical documents produced by students in the selected courses.

Chapter IV: Research Results

This chapter reports the data compiled through all the measuring methods used during the research process. As introduced in Chapter III, the dissertation used interviews with instructors, surveys for students, collection of sample documents, and focus group sessions to measure the variables generated by the research questions.

Chapter IV displays the results obtained and classifies them by instructor/case. It reports on the results that each measuring tool found on each technical writing course studied. Then, the information is grouped by university and, finally, the chapter combines cases in order to present general results for each university studied, and then it gives a global perspective of both institutions analyzed.

Chapter V: Analysis and Interpretation of Results

This chapter analyzes the results obtained through the data-gathering methods. The chapter contextualizes and interprets the findings for the cases studied, and explains the meaning of trends and frequencies evident in the results.

Chapter V also starts searching for answers to the research questions stated in this chapter, based on interpreting the results presented in Chapter IV.

Chapter VI: Summary and Conclusions

This chapter includes a summary of the dissertation focusing on the results obtained. It also features the conclusions of the study, recommendations for the cases studied, and suggestions for further research that this dissertation inspired.

Conclusion

This chapter introduced the need for distinguishing subtle from evident cultural differences in technical communication. It also stated that Mexico and the United States have a history of cultural differences that could be labeled as subtle. However, even those seemingly irrelevant disparities can affect the representation and interpretation of technical documents. The chapter mentioned that technical communication is vulnerable to cultural differences due to the specific structure of its main genres. It pointed out that learning technical communication in a highly multicultural environment changes the paradigm of teaching writing or communication classes to a homogenous audience. In this chapter, the unique culture of the U.S.-Mexico border, particularly the area of El Paso/Las Cruces-Ciudad Juarez, was identified as one of those globalized settings. It also introduced the dissertation's purpose and research questions, and presented an outline of the forthcoming chapters. Next, Chapter II sets up the theoretical foundation for the study and reviews prior work conducted on this topic.

CHAPTER II

LITERATURE REVIEW

This chapter is divided in two sections: Theoretical Foundation of the Study, and Relevant Previous Research. The former provides details about the models for studying cultural differences proposed by Fons Trompenaars and Charles Hampden-Turner, and Geert Hofstede. I argue that although Hofstede's model is traditionally used as the main reference in the field of multicultural studies, Trompenaars and Hampden-Turner's model was more appropriate for the purposes of this dissertation, mainly because of its practical application to not only identify cultural differences, but also resolve them to achieve a positive effect, and its orientation to solve problems and reconcile dilemmas. The first section also provides the conceptual framework that shaped the measurement tools I used to conduct the research.

The latter section, Relevant Previous Research, analyzes studies from the fields of technical communication, management, and business in which authors applied the mentioned models of cultural differences, including some specific cases about the United States and Mexico. The second section had the purposes of (a) identifying the gap in technical communication research that I intend to fill with this dissertation, and (b) obtain ideas from successful applications of the cultural models that I could apply to the design and development of my measurement tools, explained in Chapter III.

Theoretical Foundation of the Study

Cultural Differences Models : Fons Trompenaars and Geert Hofstede

So far, I have mentioned several times in the dissertation the model for studying cultural differences introduced by Fons Trompenaars and Charles Hampden-Turner. These authors write about the six dimensions of cultural differences in *Building Cross Cultural Competence* (Hampden-Turner and Trompenaars 11). This revised model leaves out the dimension of “neutral versus emotional” included by the authors in *Riding the Waves of Culture* (Trompenaars and Hampden-Turner 9). As shown in Figure 2.1, each dimension represents a continuum with two extremes.

Multicultural communication researcher Geert Hofstede, known for his own model of cultural differences, belittles the work of Trompenaars and Hampden-Turner, labeling it as “a fast food approach to intercultural diversity and communication” (Hofstede, “Riding” 198). He points out that the dimension of “neutral versus emotional” had a very poor correlation to the other dimensions in their model (192-3). Hofstede’s own model of cultural differences, called by Hampden-Turner and Trompenaars “The-World-According-to-Geert” (Hampden-Turner and Trompenaars, “Response” 149), has been widely used in many disciplines and fields of study since its first publication in 1980.

Hofstede’s model includes the following dimensions:

- Power distance
- Uncertainty avoidance
- Individualism versus collectivism

- Masculinity versus femininity
- Long-term versus short-term orientation (Hofstede, *Culture's* 29).

Figure 2.1: Dimensions of Cultural Differences by Trompenaars and Hampden-Turner

Despite the reputation and tradition of Hofstede's model,³ this dissertation sticks closer to the work of Trompenaars and Hampden-Turner because of its emphasis on the need for reconciling cultural differences upon identifying them. Furthermore, Trompenaars and Hampden Turner use in their publications a metaphor of reconciling dilemmas that I found appropriate for the problem-solving nature of technical communication as a field of study. In an example related to technical communication pedagogy, Thatcher provides support for this claim by listing the advantages of Trompenaars and Hampden-Turner's model over Hofstede's. In the course "Intercultural Rhetoric and Professional Communication" that he teaches at NMSU, Thatcher requires *Riding the Waves of Culture* as the main textbook, instead of a book by Hofstede (or another author). Explaining his decision, Thatcher lists the following reasons:

I prefer Trompenaars and Hampden-Turner for a couple of reasons for my courses. First, the data is newer (than Hofstede's). Second, they reconcile and explain differences in a positive, constructive manner, pointing students toward synergy. Third, Trompenaars and Hampden-Turner's book is easier to read. Hofstede is still very valuable, and I usually point towards their general agreement on most intercultural values as a validity argument —Hofstede and THT usually agree in most issues. I don't think you need to use one or the other —why can't you use both? (Thatcher, email to the author)

3 Journal articles in international technical communication cite Hofstede systematically, and the few books about that topic are full of references to his model. In Lovitt and Goswami's *Exploring the Rhetoric of International Professional Communication*, 7 of 14 articles cite Hofstede's model. In Andrews's *International Dimensions of Technical Communication*, 3 of 9 authors make references to his model. In Bosley's *Global Contexts*, 5 of 12 cases use him as a reference. And in Hager and Scheiber's *Managing Global Communication in Science and Technology*, 3 of 16 chapters use his model, with one of them (Uljin and Kumar's "Technical Communication in a Multicultural World") including six entries by Hofstede in its references.

Hampden-Turner and Trompenaars summarize the differences between their model and Hofstede's through the following four points for discussion:

Are cultural categories linear and exclusive? The authors argue that "Hofstede's work uses Aristotelian categories of A and non-A," whereas their model does not see the dimensions as mutually exclusive.

Can culture be best expressed in mathematical language? The authors claim that statistical procedures "are themselves a culture, with all the biases of their origins." Thus, their approach is not 100% quantitative.

Is Hofstede's approach more "empirical" than ours? The authors defend the theoretical foundations of their model, which Hofstede accused of being too heavily based on American academic sources.

Are there pointers to successful business practice? The authors acknowledge that there is no "better" place to be in their dimensions, and propose reconciling values in order to improve any given culture's situation. (Hampden-Turner and Trompenaars, "Response" 150-6).

In his 2003 book *Did the Pedestrian Die?*, Trompenaars acknowledges Hofstede's reputation in the field of multicultural studies. Nonetheless, he mentions that "the fact that, in academia, so many references are made to the work of Hofstede reveals more about the state of the world than it does about the groundbreaking work Hofstede has carried out with his thirty three year old material" (*Pedestrian* 7). In the same page he adds that "is a pity that [...] Hofstede has hardly added anything at all to his model —no method of reconciling differences, for example."

Hofstede published in 2001 a “completely rewritten” edition of *Culture’s Consequences*. In that book, while the author indeed does not emphasize the concept of reconciling cultural differences as much as Trompenaars and Hampden-Turner do, he does attempt to include some practical recommendations after identifying the differences.

Hofstede states that “the acquisition of intercultural communication abilities passes through three phases: awareness, knowledge, and skills” (427). He points out that in the skills stage “we have to learn to understand the symbols of other culture, recognize their heroes, practice their rituals, and experience the satisfaction of getting along in the new environment” (428). These concepts are very similar to the recommendations of Trompenaars and Hampden-Turner for achieving transcultural competence “by being aware of cultural differences, respecting them and ultimately reconciling them” (*Riding* 200). This confirms Thatcher’s observation regarding the similarities between these models.

Other authors have also pointed out inaccuracies, faulty generalizations, and problems with outdated material in Hofstede’s model. Fernandez et al., for example, replicated Hofstede’s original research in 1997 with the purpose of establishing “whether the country rankings would be the same some 30 years after Hofstede’s data were collected” (45-6). Their results suggest that “there have been significant shifts in value classifications in some countries since Hofstede conducted his original study” (52). One of their main findings was in Hofstede’s dimension of Masculinity and Femininity, “consistent with changes in the work force, in which women have increasingly gained positions of power since Hofstede’s data collection” (52). Likewise, McSweeney

mentions that Hofstede “has never acknowledged any significant errors or weaknesses in that research” (90). He later identifies “the limited characterization of culture in Hofstede’s work, its confinement within the territory of states, and its methodology flaws” as the main problems of this model (112).

In his defense, Hofstede affirms that the quality of projects replicating his research “has varied tremendously. Some readers assumed naively that any group of respondents in a country would score the questions exactly as [in Hofstede’s original research]” (*Culture’s* 66). He describes the research performed by Fernandez et al. as based on “unfounded conclusions,” adding that “Fernandez et al. made no attempt at validating their scores, not even face validating” (76).

Despite the multiple merits of Hofstede’s research, it offers no technique for reconciling the cultural differences it identifies. Although my research is not totally based on any model, I decided to use an adapted version of the Trompenaars and Hampden-Turner questionnaire for cross-cultural competence as one of my measurement tools. Chapter III explains the extent to which these models were used in my data collection methods.

The following section moves on from the differences between these models and elaborates on the key concept that makes Trompenaars and Hampden-Turner’s research unique for the purpose of this dissertation: the idea of reconciling dilemmas in order to solve cultural differences.

Reconciling Cultural Differences. I stated in Chapter I that this dissertation uses the term cross-cultural competence in the same way as Trompenaars and Hampden-

Turner use it in their publications about cultural differences. This term, which is also a variable in my second research question, was introduced by Trompenaars and Hampden-Turner in *Riding the Waves of Culture*. In that book, the authors started by defining culture as “the way in which a group of people solves problems and reconciles dilemmas” (6). They added that culture presents itself on different levels, starting at a national or regional dimension, and then moving to professional or organizational stages. In this dissertation, I analyze a professional culture (technical communication classrooms) nested in a regional culture (the U.S.-Mexico border in the El Paso/Ciudad Juarez area). One of the biggest problems with this book is that the cross-cultural competence was never defined as a concept on its own. The authors made meaning of it by putting it in context with their model of cultural differences, or by connecting them to the need for reconciling disparities.

In a more recent book, the authors moved the concept of cultural differences to the background and put the spotlight on the term cross-cultural competence. *Building Cross-Cultural Competence*, published in 2000, is a direct application of the model introduced in the first book, this time with the explicit intention of achieving cross-cultural competence in multicultural groups. Each one of the dimensions in Trompenaars’s model is applied to practical cases, including specific sections with ideas for reconciling differences. The main theoretical element in this book is that the model of cultural differences represented in Figure 2.1 does not see the extremes of each dimension as opposite, but as “mirror images” (2). However, *Building Cross-Cultural*

Competence does not offer a simple definition of cross-cultural competence either. The closest thing to a definition is in the following paragraph, from the book's introduction:

Different cultures value different arcs of the same circle, celebrating the movement from A to Z or, in other cultures, the movement from Z back to A. Although the descending arc may seem to mock and contradict the ascending arc, and vice versa, the truth is that these complement each other, like yin and yang. Thinking in circles, using encompassing reason, is a form of wisdom. The fashionable name for this among the consulting community is *cross-cultural competence*. (Hampden-Turner and Trompenaars, *Building* 4)

In both books, Trompenaars and Hampden-Turner measured cross-cultural competence by using a questionnaire based on the dimensions of their model of cultural differences. Chapter III talks about the Trompenaars Hampden-Turner questionnaire and the way in which I applied it to my research.

As stated in the research questions' section, the main theoretical concern for the dissertation was the concept of competence in multicultural settings. Trompenaars and Hampden-Turner argue that "transcultural competence can be achieved by being aware of cultural differences, respecting them and ultimately reconciling them" (*Building* 200). Whereas many researchers have written about the need for awareness and respect of cultural differences, Trompenaars and Hampden-Turner do not stop at identifying cultural differences, but propose reconciling them to acquire cross-cultural competence and, eventually, wealth. That third step in their model was fundamental to my research: from the moment I conceived the dissertation's idea, I had the purpose of reconciling cultural-differences in the border technical communication classroom. In order to achieve that goal, I followed the recommendations of Hampden-Turner and Trompenaars, who introduced a list of ten points "useful to achieving reconciliation" (Trompenaars and Hampden-Turner, *Riding* 205-17). Those points are:

The theory of complementarity. The authors suggest that the extremes on each one of their dimensions of cultural differences are not opposite: they complement each other in order to make meaning of the dissimilarities.

Using humor. The authors imply that artifacts like cartoons on the walls at offices might reflect the reality of the cultural differences happening in a specific multicultural setting.

Mapping out a cultural space. In this point, similar to the one about complementarity, the authors say that each extreme in a dimension of cultural differences can work as an axis creating a cultural space with its complement, and that space can be studied through interviews or questionnaires.

From nouns to present participles and processes. The authors propose to convert the nouns in each extreme of the dimensions in processes (i.e., universalizing-particularizing, instead of universalism-particularism) in order to attract people's participation in the reconciliation of dilemmas.

Language and meta-language. The authors indicate that moving a term from a basic "object level" of enunciation to a meta-level of abstraction can trigger determination for making changes. Example: determined to qualify rule or create new one (meta-level) instead of particular request breaks existing rule (object level).

Frames and context. Based on the previous one, the authors state that the meta-level frames a concept, and thus allows a better analysis of it when it's encapsulated by its own higher abstraction.

Sequencing. The authors say in this one that it is not possible to be on both sides of a dimension at the same time (one cannot be particular and general at the same time); however, they propose a sequence of change over time, which would turn one extreme into the other (particular can become general over time).

Waving/cycling. The authors point out that instead of seeing cultural values as objects it would be useful to see them as waves operating in different frequencies. Hence, when juxtaposed, they would create an “error correcting system” by revealing their differences in frequency.

Synergizing and virtuous cycling. The authors affirm that the extremes of a dimension of cultural differences can work with one another and create synergy in a process of mutual facilitation.

The double helix. The authors call this their “model of models,” and it is based on the molecular structure of DNA. They say that, metaphorically speaking, cultures are alive, and a double helix helps summarize all the other nine processes for reconciliation.

[The twisted ladder of protein synthesis] is full of **complementarities**. When the “pairs” come together unexpectedly, it can be **funny**. We can use the uprights on each side of the ladder as cultural space for **mapping**. The twisted elements of the ladder constitute a growth **process**. Each twist of the spiral speaks the **language** of growth and contains coded instructions. Each turn of the helix is framed and **contextualized** by the helix within and around it, containing and constraining. The process is **sequential**. It constitutes **waves and cycles**, with synthesis producing growth and **synergy**. (Trompenaars and Hampden-Turner, *Riding* 217)

In a multicultural technical communication classroom I was looking to reconcile the differences between native English speaking and non-native English speaking students, and among high performing foreign students and low performing foreign

students, as stated in my research questions. Regarding the model by Trompenaars and Hampden-Turner, Chapter III includes details about the way in which I applied these authors' methodology for reconciliation to this dissertation.

The following section looks at relevant studies conducted in management, business, and technical communication regarding the use of models to explain cultural differences between Mexico and the United States. Most of them follow the tradition of using Hofstede's model as a main reference, and some incorporate the work of Trompenaars and Hampden-Turner.

Relevant Previous Research

This section includes three main branches of literature review. First, I looked at previous studies conducted regarding the need for more multicultural coverage in technical communication classes. I paid special attention to the works of Tippens, Miles, and Thrush, who wrote specifically about the service course. Second, I reviewed some sources about the rhetorical and cultural differences between the United States and Mexico, looking at writings from Greer and Stephens, Tebeaux, and Thatcher. All of these authors used concepts from Hofstede (and occasionally Trompenaars and Hampden-Turner) in their studies. From a management perspective, Greer and Stephens have conducted research on the role of cultural differences in U.S.-Mexico interaction. Tebeaux (and with Driskill) might be the only contemporary author in the field of technical communication who has conducted research purposely about Mexico. She has even contrasted some of the fundamental cultural differences between Mexico and the

United States “against some of the major value dimensions discussed by interculturalists such as Geert Hofstede and Fons Trompenaars” (Tebeaux 50). Thatcher has published several articles and book chapters related to research methods for comparing technical documents in English and Spanish. His dissertation, a case study conducted in Ecuador, is the most extensive evidence of cultural and rhetorical differences between professional writing practices in the United States and Latin-American countries. And third, I analyzed the term cross-cultural competence contextualized for the specific case of cross-cultural interactions on the U.S.-Mexico border. The most important texts for this section were by Abbott and Moran.

As I mentioned before, this section of the literature review allowed me to identify the gap in multicultural studies (mainly in the field of technical communication) that I intend to fill with this dissertation, and to obtain ideas that I could convert into heuristics to apply in the development of my measurement tools for the research.

International Technical Communication in the Service Course

Before getting to the specifics of content about international issues in the technical communication service course, I will contextualize the subject by providing a definition of that course. Pickett mentions that “service courses in technical communication are designed for students majoring in technical, technological, and professional areas” (287). In the same page, she adds that “*service courses* in technical communication must be distinguished from technical communication *programs*.” Hence, not all the students in the service course are majoring in technical communication.

Furthermore, when they sign up for the technical communication service course, international and American students expect to be in the “primary (and oftentimes only) writing experience [...] after their freshman year” (Nagelhout 286). The “service” in this course’s name is:

...to help students develop the tools for analyzing language and understanding writing in more complex ways, to provide them with opportunities to reflect on their own writing, to think critically about rhetorical situations, and to create, design, and write “texts” that can be developed through a variety of media. (Nagelhout 286)

Hence, if the multicultural classroom does not develop a strong level of cross-cultural competence, those goals for making the students in a multicultural classroom consume and produce technical documents will not be achieved.

Since the early 1990s, authors like Tippens and, more recently, St. Amant have made appeals for including awareness about intercultural issues in technical communication classes in American institutions. Whereas practitioners in the field and even students of graduate programs are commonly exposed to topics about translation and international audiences, the service course rarely even mentions them. Tippens writes that technical communication “academic professionals must respond to the needs for interculturalizing technical or business communications courses as well as themselves” (390). However, she also says that the lack of pedagogies and textbooks to support this idea creates many challenges: “A major challenge here is for teachers, as well as students, to understand and to apply this understanding of the basic differences between representative world cultures” (Tippens 394). Working on that same idea almost a decade after Tippens, St. Amant has conducted research proposing that “technical

communication instructors can both enhance the learning experience for various groups of students and expand our understanding of cross-cultural practices in online media” (312).

The call has been answered to some degree, and awareness regarding international audiences has been a topic for classroom discussion in technical communication books and courses for many years. But they are mainly treated as sidebars. International technical communication is covered sometimes in an isolated chapter or, even worse, as a paragraph or a footnote in a discussion about audience. Supporting this point, Thrush also mentioned in the early 1990s that “most textbooks in technical communication include little or no discussion of [international issues]” (Thrush, “Bridging” 272). And, in the present, DeVoss et al. still lament that textbooks in this area “are limited in how they help us think about these issues in more detailed and complicated ways” (70). Miles summarizes that situation in the following statement:

In the case of professional writing textbooks, I claim that the attempts to globalize professional writing curricula too often position our students who are international or non-native speakers of English as problematic barriers to effective communication, as passive recipients of the productive writing of mainstream American students, as exotics who live and work within and endless litany of fun facts to know and tell. (Miles 181)

Tippens offers some recommendations for improvement through a case study focused on U.S.-Japan cultural differences. She says, “After students learn basic cultural differences in interpretation of existence by Easterners and Westerners, for example, it is time to customize some or all of the assignments in the technical or business communication course” (Tippens 403). She proposes ways in which instructors can make

some of the most common service course written genres more global. She takes a look at letters, resumes, instructions, memos, research papers, oral reports, and visual aids (403-7). She finishes her recommendations by suggesting that instructors should be open to the possibility of team teaching, claiming that “taking an inventory of faculty expertise would obviously be a benefit, and if more international expertise is necessary, this would be a good time to encourage faculty development workshops and faculty exchanges” (407). Miles’s study was based on her analysis of textbooks used in the service course. She “selected one year (1995), and examined all the professional writing textbooks published that year” (Miles 182). It is important to mention, however, that Miles was mainly concerned about teaching technical communication to foreign students, and not so in the multicultural content of the class for an American audience. To that effect, she concentrated on analyzing how the textbooks carried out the promise included in their prefaces. Her working questions were:

- Just how do textbooks integrate issues surrounding the increasingly international character of our students and their eventual workforce?
- How are the needs of our second language students addressed in these textbooks?
- And, finally, what are the implications of the textbooks’ constructions of non-native speakers of English? What messages are these texts sending to both our ESL and our native English speaking students? (Miles 184).

Miles’s suggestions for change are presented in the form of a list of sources like “scholarship in professional communication, professional communication practice-

oriented journals and columns, conversations with practitioners, and scholarship in second language writing” (190).

Likewise, Thrush has some recommendations for including multicultural content in technical communication courses. She specifies that studying fundamentals of multiculturalism does not mean that the students in technical communication classes will have to learn a foreign language in order to translate their documents. She also mentions that using English as an international language of business does not solve problems caused by cultural differences: “The use of a particular grammar and vocabulary does not necessarily imply a shared value system, a uniform approach to business transactions, or a common pool of knowledge” (Thrush, “Bridging” 273). She adds that “several” factors affect the way in which different cultures read and interpret texts, and she provides a list of those factors:

- World experience
- The amount of common knowledge shared within a culture
- The hierarchical structure of society and workplace
- Culturally specific rhetorical strategies, and
- Cultural differences in processing graphics (274).

Lastly, Thrush suggests a three-step approach to including multicultural content in technical communication courses: “raising awareness of the problem, introducing students to sources of information, and providing practice in communicating with people of other cultures” (280).

Rhetorical and Cultural Differences between the United States and Mexico

Relying mainly on the works of Hofstede, but also citing Trompenaars and others, Stephens and Greer conducted a couple of research studies expressly about cultural differences between Mexico and the U.S. In 1995, these authors published the article “Doing Business in Mexico: Understanding Cultural Differences,” a qualitative “study of managers and professionals involved in Mexican-U.S. joint ventures” (Stephens and Greer 39). The author’s purpose in this study was to assess the effect of cultural differences on managerial interactions in cross-cultural settings. Their methods included interviews with “Mexican, U.S., and third-country nationals who worked as executives, managers, or professionals in forms involved in joint ventures” (40). This stage of their research was conducted in Mexico City and Chihuahua. They also performed additional interviews and observations in academic and workplace environments in Mexico. Their measurement tools were based on Hofstede’s dimensions of power distance, uncertainty avoidance, collectivism and individualism (which they also link to Trompenaars’s model), and masculinity. Their results lead them to propose nine lessons for resolving cultural differences between Mexican and American managers and executives. It is worth mentioning that their lessons are aimed at an American audience, and not at Mexican managers trying to solve cultural disparities with U.S. partners. Thus, their recommendations could be applied, to a certain degree, to the role of instructors in multicultural technical communication classrooms. In their role of managers or supervisors, American instructors teaching to a multicultural audience could benefit from the following lessons by Stephens and Greer:

- Exploit and become a functioning partner in Mexican social and business networks.
- Allow Mexican employees to reveal failure or error without losing face.
- Do not underestimate Mexican expertise and adaptability in cutting-edge technologies.
- Work within Mexican cultural parameters for male/female workplace relationships.
- Clarify expectations at the start and throughout the working relationship.
- Embrace Mexican cultural values that enhance and facilitate teamwork.
- Tailor employee reward systems to cultural and economic circumstances.
- Cultivate and support employee initiative and decision making.
- Understand and adapt to transitional aspects of Mexican business and culture.

Their research took place mostly in northern towns in Mexico (and a few places in Mexico City). As a country, Mexico has its own cultural differences by zone and region, and generalizing the Stephens and Greer's findings to the whole country would be a mistake. Although they apparently did not take this into consideration, they did mention that their findings were not to be applied to other countries in Latin America.

Some executives may be tempted to apply our findings to other Central and South American countries, but we believe this is not justifiable without further research. While the cultures of many of our neighbors to the south may appear to be similar to Mexico in terms of Hofstede's value generalization, subtle and not-so-subtle differences in values, behavior, and assumptions may necessitate different approaches in other countries. (Stephens and Greer 54)

In 2001, Greer and Stephens revisited the topic of cultural differences between Mexico and the U.S. in "Escalation of Commitment: A Comparison of Differences between Mexican and U.S. Decision-Makers," a more complex and rigorous research based on the idea that, in a NAFTA environment, "knowledge of cultural differences and

tendencies toward escalation of commitment is especially important” (Greer and Stephens 52). Their purpose in this study was to analyze the role of cultural differences in tendencies for escalation of commitment among Mexican and American managers. While Trompenaars and Hampden-Turner were an important part of the theoretical framework for their document, the authors did not rely as heavily on Hofstede’s data as they did in their 1995 article, claiming that its results were outdated. Instead, they used the “revised” Hofstede model proposed by Fernandez et al. (Greer and Stephens 53-4). Thus, they contradicted Hofstede’s results for the dimension of uncertainty avoidance as applied to Mexico and the U.S., and stated that after 25 years, the information “appears to have reversed” (54).

Their methods included a questionnaire with a dilemma-based scenario, similar to the one used by Trompenaars and Hampden-Turner. Their sample included Mexican subjects from workplace and academic environments in Juarez/El Paso, Mexico City, and Chihuahua, and American subjects from workplace and academic environments from undisclosed cities and states in the U.S. They mentioned that their American academic sample included “111 subjects in the evening MBA program of a university located in the Southwest” (59), most likely Texas Christian University, where both authors hold faculty positions.

In their conclusions they state that they “found substantial support for our hypothesis that Mexican decision-makers are more likely than their U.S. counterparts to escalate commitment to projects that are in trouble (71). They never explained their decision for disclosing the regional location of their Mexican subjects and not providing

information regarding the American subjects. However, their studies did confirm that despite its many similarities, Mexico and the United States do have cultural differences that affect communication processes in cross-cultural projects involving individuals from both countries.

Those differences have also been briefly addressed in the field of technical and professional communication, where very few authors have ever mentioned Mexico in their multicultural studies. In her article “Designing Written Business Communication along the Shifting Cultural Continuum. The New Face of Mexico,” published in 1999, Elizabeth Tebeaux points out some problems related to “Mexican education and its effects on current applied discourse practices” (71). She observes that college writing classes in Mexico are mostly focused on general competence or mechanics. She adds that most of those courses would be “construed as remedial English in a typical US university” (71). Concentrating on the rhetorical differences between U.S. writing classes and their Mexican equivalents, she says:

The course syllabi that I have been able to examine suggest that rhetoric, as it is presented in US college curricula (with analysis of audience, purpose, and context as the basis for content determination), is not carefully addressed (if at all). Also writing courses do not use a process approach for teaching writing. Textbooks focus on form and outline approach to the development of documents such as reports and proposals. (Tebeaux 72)

The difference in the teaching of writing and rhetoric pointed out by Tebeaux can be attributed to the positivism-based ideas adopted by Mexican academia during the Reform period in the mid 1800s, which still haunts many textbooks and programs south of the border. Writing about positivism and rhetoric, Dombrowski says that “both

Halloran and Miller encourage us to be less suspicious of language than positivists have been, to see language as an inseparable ally, or at least as a neutral, rather than as an enemy” (99). Mexican positivism, as experienced through my education from kindergarten to college in Mexican institutions, indeed forces an emphasis on “practical” subjects and labels communication and writing programs as soft or (at least when I was in college studying for my undergraduate degree in communication science) communist projects. Cadenhead confirms this perspective, stating that the adoption of positivism in Mexican academia “spelled out a curriculum that was supposed to prepare Mexicans for the world in which they lived. It emphasized practical courses such as reading, arithmetic, and science with some attention paid to government, history, and geography” (132). Nonetheless, as some authors claim, that was not really the world in which Mexicans lived, and positivism (and the Reform laws) forced the adoption of “progress” in detriment of ancient values. In *The Labyrinth of Solitude*, Octavio Paz affirms that “lie and inauthenticity are, thus, the psychological foundation of the Mexican positivism” (163).

In spite of the relevance of the actual differences in writing instruction between the United States and Mexico that it reports, Tebeaux’s study has too many inaccuracies about Mexico, a country that in actuality is much more diverse than what she portrays in this article. For example, she affirms that “because of the lack of economic and political progress for the majority of Mexicans since the colonial era, no constitution exists to ensure individual rights and democratic processes” (66). The Political Constitution of the United States of Mexico was issued on February 5, 1917. It has been revised several

times since that first release, and it still Mexico's valid constitution. Its first chapter, which comprises 29 articles, is devoted to establishing individual rights for Mexican citizens and visitors. The Institute of Juridical Research of the Autonomous University of Mexico has a web version of the complete Mexican constitution, whose Article 1 states:

In the Mexican United States every individual will enjoy the warranties granted by this constitution, which could not be restricted nor suspended, other than in the cases and conditions that this document itself establishes. Slavery is forbidden in the Mexican United States. Foreign slaves entering national territory will obtain, just because of that fact, their freedom and protection of the laws. It is forbidden [to exercise] every type of discrimination motivated by ethnic or national background, gender, age, different capabilities, social condition, health conditions, religion, opinions, preferences, marital status, or any other attempting against human dignity. ("Constitución")

Regarding the lack of regulation to support democratic processes, article 40 of the Mexican constitution describes the country's government as "a representative republic, democratic, and federal" ("Constitución"). By saying that there is no Mexican constitution, instead of saying that corrupt politicians and government officials occasionally do not respect the Mexican constitution, Tebeaux makes the country look more underdeveloped than it actually is.

Tebeaux also states that "despite some increases in its middle class, Mexico still is a country with two classes: the elite and the poor" (66). I, my family, and most of my friends and relatives in Mexico should confirm that the Mexican middle class has existed for at least 70 years. Her analysis also has an ethnocentric charge, based on the unique American college English department perspective of seeing composition, rhetoric, and English as synonyms related to the teaching of writing. Looking at Trompenaars and Hampden-Turner's steps for building cross-cultural competence, Tebeaux stays in the

first level (identifying cultural differences). She embraces statements like “Mexico and the United States have great difficulty doing business as harmoniously as many US businesses would like because of the vast differences in their histories and cultures” (68), and “these differences in the histories and cultures of Mexico and the United States, particularly the difference in the views of progress, define many of the differences that affect potential business relationships” (69). To her credit, she also mentions that “designing written business communication that will be effective in Mexico requires understanding not only Mexican culture but also Mexican history and the relationship of that history to (Mexico’s) principal values” (50).

Unlike Stephens and Greer, Tebeaux’s methodology included a textual analysis of written business communication (mainly letters) from 21 individuals in 8 “Mexican organizations that agreed to discuss their written communication with me” (50). She did not justify the selection of that sample for her research, and only stated that she needed “contacts” in order to conduct the interviews (51). In her analysis, Tebeaux looked at the letters through a combination of dimensions taken from Hofstede’s and Trompenaars’ models of cultural differences. Of the available dimensions, she decided to use individualism versus collectivism, neutral and specific versus affective and diffuse, time oriented versus being oriented, uncertainty avoidance versus uncertainty acceptance, high power distance versus low power distance, and universalism versus particularism (52-63). Tebeaux conclusion includes a recommendation for understanding “not only Mexican culture but also US culture” in order to “design effective documents for Mexican readers”

(79), who look mostly like passive consumers of American documentation, as Miles would say (181).

That same year, Tebeaux also wrote about technical communication in Mexico, coauthoring with Linda Driskill, in the chapter “Culture and the Shape of Rhetoric: Protocols of International Document Design.” Although the manuscript included a two-paragraph example from routine document design in Pakistan, most of its 40 pages were devoted to a case study involving business communication in Mexico. Nonetheless, the word Mexico did not make it to the title of the chapter. Furthermore, the whole text is written in a “Western versus Non-Western” design practices perspective, and somehow Mexico seems to be included in the “Non-Western” section. In the same light as her previous article about Mexico, Tebeaux adopts with Driskill an American ethnocentric perspective in this chapter. The authors include an appendix with a guide whose purpose is “to help students see comparisons between the U.S. culture and non-U.S. cultures and to show how U.S. documents may differ from those in other cultures” (237). Although they do acknowledge that the guide is a generalization, it actually puts U.S. business communication strategies against every other culture, stating that any “non-U.S.” document is also a “non-Western” document (Tebeaux and Driskill 246-8).

Regarding Mexico, their text uses some of Hofstede’s dimensions of cultural differences to point out disparities between Mexican business writing and the American standard way of writing letters. Their case study is based on the “dilemma faced by Kaveh Moussavi, a Mexican citizen working as a commercial consultant in London” (217). Moussavi had a lengthy confrontation in 1992 with the Mexican government when

he refused to pay a bribe of 1 million dollars to win an equipment bid for IBM, his client at the time. Using Hofstede's cultural dimensions, Tebeaux and Driskill analyze some of Moussavi's letters written for different audiences, and contrast them to American business correspondence practices. Incidentally, Moussavi has always been identified by the Mexican press as "a British businessman" (Galván Ochoa). The opening statement before the Senate Select Committee on Intelligence at its hearing on "The Likely Impacts of Passage or Defeat of NAFTA" also describes Moussavi as being British and not Mexican (Reding).

Moving beyond the mere contrasting of documents, Barry Thatcher proposes a more active role for foreign consumers of American technical texts in "Cultural and Rhetorical Adaptations for South American Audiences." Besides the basic concerns about creating the document, he shows concern about the process of learning when the document is received. He asks, "What are predominant South American educational and literacy strategies for learning new technologies and workplace procedures" (177).

Confirming Tebeaux's affirmation about the lack of research about technical communication in Spanish-speaking countries, Thatcher points out that "this gap puts U.S. technical communicators at a considerable disadvantage" (177). His methodology was also a case study, and it was conducted in the Ecuadorian office for a U.S. based church. Thatcher's research focused on two cases: the first involved the translation of a 10-page document originally written in English into Spanish by Ecuadorians, and the second was about the collaborative writing in the development of two five-page documents with policies and procedures (178). The writing team in the second case

included “three to five South Americans, each from Venezuela, Colombia, Peru, and Bolivia; eight to ten writers from Ecuador; and two from the U.S.” (178). Thatcher’s data collection included three stages: observations, interviews, and surveys; interactionist and ethnomethodological designs, and post-study check of the findings with the participants (178-80). His data analysis showed that adapting documents for South American audiences was a process marked by cultural differences that he classifies in six categories, some of them taken from Hofstede’s model:

- Orality-writing patterns of communication
- Contexting and communication
- Collective/particular patterns of communication
- Narrative/accumulative patterns of communication
- High power distance and communication
- Collaboration and quality (Thatcher, “Cultural” 180).

Thatcher concludes that “cultural values underlie the purposes of writing and orality, and corresponding audience-author relations, needs for information, ways of organizing discourse, and stylistic preferences” (193).

In a more recent publication, “Issues of Validity in Intercultural Professional Communication Research,” Thatcher argues that despite the growing number of publications on intercultural technical communication, “very few of these researchers have addressed empirical research methodologies for intercultural communication” (458). He adds that most researchers adapt American methods based on U.S. multiculturalism and social and cultural constructions to intercultural studies. However, “these methods

are not designed to assess second-language and cross-cultural assumptions, variables that move far beyond a US multiculturalism” (458-9). He claims that empirical methodologies “should be adapted in three ways to ensure their validity and ethics in intercultural studies” (459):

1. Intercultural empirical methods need to distinguish broad rhetorical and cultural patterns from regional, organizational, and personal patterns.
2. Intercultural empirical methods need to distinguish not only the differences in rhetorical patterns in a form of communication, but also the ways in which that communication is used.
3. Intercultural empirical methods need to construct researcher-participant relationships sensitive to the values of both cultures involved —and he uses the dimensions introduced by Hofstede and Trompenaars (Thatcher, “Issues” 459-62).

Chapter III presents the way in which the dissertation adopted Thatcher’s model to ensure validity in the research process.

Cross-Cultural Competence on the U.S.-Mexico Border

Incidentally, Jeffrey Abbott and Robert Moran have written about cultural differences in the specific setting of NAFTA cross-cultural regions, and a significant part of their work is about interactions among the U.S. and Mexico. Furthermore, Abbott and Moran use in their books the term competencies to describe desired qualities in efficient cross-cultural workers, in a way similar to Trompenaars’s concept of cross-cultural competence. In their 1994 book, *NAFTA: Managing the Cultural Differences*, Moran and

Abbot anticipated that “of the three countries involved in NAFTA, the two that will have the hardest time overcoming the scars of history are Mexico and the United States” (29). The authors explain that future-oriented Americans might not remember the conflictive history of these countries’ interactions, whereas Mexicans may still remember the war that ended with the annexation of Texas to the U.S. in 1845, and the subsequent military invasion that ultimately made Mexicans a minority in what used to be their own land. The authors add: “Discrimination against the native Mexican populations remaining in the newly acquired territories served the interest of the new settlers who would take their land and disenfranchise them from participating in what had been their society” (31).

Moran and Abbott also applied Hofstede’s model to explain differences in business and management practices among Mexican, American, and Canadian organizations, and then proposed some strategies for successful transactions under the NAFTA framework. The authors affirm that “much of the success or failure of any global project can be attributed to the competencies of the individuals involved” (127), and then provide a “checklist” of nine competencies that they consider to be valuable for NAFTA workers.

Abbott and Moran repeated the same ideas (with minor changes) in their 2002 book, *Uniting North American Business: NAFTA Best Practices*. They start their discussion of the competencies by asking a “Trivial Pursuit”-like question: “Which country, Canada, the United States, or Mexico, has produced the most competent global people?” (76). They define competent as “well qualified, capable, fit” (77), and add that this question generates ethnocentric answers: most of the respondents would say that the

nationals of their native country are the most competent. Therefore, they restate the question as: “What contribution to a global organization is made by managers of various cultures?” (77). They answer the question by saying that every country makes useful contributions depending on the situation. In addition, Abbott and Moran repeat their checklist of competencies, mentioning that following each competency “the reader can assess whether this competency is possessed (1) to a high degree, (2) somewhat, or (3) to a low degree by (1) the reader or (2) the key staff involved in NAFTA” (82). The competencies are listed in Table 2.1 (Abbott and Moran 82-4).

Table 2.1: NAFTA Competencies

Competency One	Possessing a Global Mindset
Competency Two	Having the Ability to Work as Collaborators/Equals with Persons from Diverse Backgrounds and Especially the Ability to Work Effectively with Women
Competency Three	Having a Long-Term Orientation
Competency Four	Negotiating and Approaching Conflicts in a Collaborative Mode
Competency Five	Managing Skillfully the Foreign Deployment Cycle
Competency Six	Leading and Participating Effectively in Multicultural Teams
Competency Seven	Understanding One’s Culture, Values, and Assumptions
Competency Eight	Profiling Accurately Organizational Culture and National Culture of Others
Competency Nine	Avoiding Cultural Mistakes and Behaving in a Manner that Demonstrates Knowledge of and Respect for the Way of Conducting Business in Other Countries

Although this dissertation is not precisely about NAFTA settings, it is a cross-cultural study of groups working on a Mexico-U.S. intersection, and as such can benefit from Abbott and Moran’s work. Just like the lessons proposed by Stephens and Greer,

Abbott and Moran's competencies provide elements that American instructors could apply to their work with multicultural students in technical communication courses. For purposes of my cross-cultural research, both the lessons and the competencies allowed me to build a heuristic that eventually became an interview guide for collecting data in my case study. Nonetheless, I emphasize that my research is cross-cultural and not international. Victor points out that although some authors use *cross-cultural* and *international* as synonyms, they are not identical in meaning. He writes, "International means 'between or among nation-states.' Cross-cultural means 'between or among cultural groups'" (Victor 12). Victor provides support for my project by mentioning that domestic cultural diversity and guest workers (students, in my case) should also be considered in multicultural studies (7). He adds, "In countries with both high immigration and large numbers of guest workers, the makeup of the force is multicultural. The domestic work environment is essentially international in composition" (8).

It is important to mention that Mexican nationals and Mexican-Americans have strong cultural differences among them in the El Paso/Ciudad Juarez area. Although they live essentially in the same city (border included), they do communicate in different ways. Mexican nationals, for example, tend to cross the border in a defensive mood, expecting to be affected by stereotypes or cultural misunderstandings, as Condon notes:

For many persons in the United States, the image of the Mexican has been that of the *bracero*, the migrant farm laborer, or a cartoon caricature, Chiquita Banana or Frito Bandito. Relatively few North Americans have had much direct contact with the Mexican executive, doctor, professor or engineer. For many Mexicans, the stereotypic American straddles the Rio Grande with a greedy eye and bags of money in each hand. (Condon xvi-xvii)

According to Fuentes, even the border is perceived differently by Mexicans and Americans. An important border that he sees as “also a border between the United States and all of Latin America, which begins south of the river that you call the Rio Grande and we call the Rio Bravo” (160).

Likewise, the feeling of Mexican-Americans regarding their differences with Mexican nationals can be summed up in the following observation by Gloria Anzaldua:

Among ourselves we don't say *nosotros los americanos*, o *nosotros los españoles*, o *nosotros los hispanos*. We say *nosotros los mexicanos* (by *mexicanos* we do not mean citizens of Mexico; we do not mean a national identity, but a racial one). We distinguish between *mexicanos del otro lado* and *mexicanos de este lado*. Deep in our hearts we believe that being Mexican has nothing to do with which country one lives in. Being Mexican is a state of soul—not one of mind. (Anzaldua 84).

Chapter III talks about the specific demographics and representation of each cultural group in the population used for my research.

Conclusion

This chapter introduced the theoretical foundation for the research and relevant previous studies about cultural differences in the technical communication classroom and among US-Mexico interactions. The first section compared the models developed by Fons Trompenaars and Hampden-Turner, and Geert Hofstede. The second section included two main threads of previous studies that I found relevant for my dissertation: Prior research on international technical communication, and the concept of cross-cultural competence applied to relationships between Mexico and the U.S. The first one analyzed texts about the need for more multicultural coverage in technical

communication classes, the rhetorical and cultural differences between the United States and Mexico, and the meaning of the term cross-cultural competence. The second section established a list of competencies that every individual involved in NAFTA interactions should possess. Chapter III will explain in detail the design of the research and the methods and methodologies utilized in the study.

CHAPTER III

METHODOLOGY

Chapter II introduced the main theoretical concepts that frame the research conducted in this dissertation. It also established concepts and terminology in the fields of multicultural studies and international technical communication that will be used throughout the dissertation in order to keep my research questions in terms that could be measured through empirical research.

This chapter explains in detail the methodological components of my dissertation. Based on Thatcher's recommendations cited in Chapter II, I performed the study as a work of intercultural empirical methods. Lauer and Asher define empirical research as "the process of developing systematized knowledge gained from observations that are formulated to support insights and generalizations about the phenomena under study" (7). Hence, in order to perform those observations, my research consisted of two case studies conducted at American universities offering the technical communication service course on the U.S.-Mexico border area. Stake, cited by Creswell, defines the case study as a qualitative strategy "in which the researcher explores in depth a program, an event, an activity, a process, or one or more individuals" (15). My in-depth exploration of the technical communication service course offered in two English departments took place in New Mexico State University (NMSU) and the University of Texas El Paso (UTEP), during the months of June and August, and October of 2003, respectively.

The following sections will explicate key aspects of the research process, including: the statement of the study's hypotheses (propositions), variables, and operational definitions; a detailed taxonomy of my research design, and the selection, modification, and development of the measurement tools utilized to gather data that would answer the research questions stated in Chapter I.

Hypotheses (Propositions), Variables, and Operational Definitions

In order to establish clear relations between the types of data collected and the research questions, each research question of my study received a Q identifier, and thus they became:

- Q1: Which factors affect the nonimmigrant Mexican students' ability to learn how to produce and consume technical documents written in English?
- Q2: How does the high presence of nonimmigrant Mexican students affect, for better or worse, the cross-cultural competence in the technical communication service course in border universities?
- Q3: What additional characteristics do native English-speaking students possess compared to their nonimmigrant Mexican classmates for obtaining higher grades in the technical communication service course?
- Q4: What additional characteristics do high performing Mexican nonimmigrant students possess compared to their low-performing fellow citizens for obtaining higher grades in the technical communication service course?

Q5: How are the technical communication service course instructors in border universities addressing the diversity in the classroom's audience?

Once I had the research questions properly classified, I attempted to answer them through the following propositions, which I will use as a manner of hypotheses (a term I would rather not use as an absolute descriptor for them, given that my study was not experimental). The propositions are:

P1: If their instructor does not address the multicultural nature of the class, nonimmigrant Mexican and Mexican-American students in technical communication courses might not be able to produce effective technical documents.

P2: The high presence of nonimmigrant Mexican students in technical communication classes affects the level of cross-cultural competence in service course classes at border universities.

P3: Native English speaking students produce more effective technical documents than nonimmigrant Mexican students in technical communication courses at border universities.

Based on those propositions, I was able to identify the following variables:

1. Instructor's interest in teaching multicultural communication (independent variable)
2. Effectiveness of technical documents produced by students (dependent variable);
3. Nationality of the students (independent variable);
4. Ethnicity of the students (independent variable);

5. Cross-cultural competence (dependent variable).

With the purpose of measuring the variables, I assigned them the following operational definitions:

1. *Instructor's interest in teaching multicultural communication.* Instructor's answer to specific question about the content regarding multicultural communication in the syllabus.

2. *Effectiveness of technical documents produced by students.* Numeric grade (on a scale of 0-100) assigned to students' papers by a focus group of technical writing instructors, based on the specifications of each genre according to the textbook used in the students' course.

3. *Nationality of the students.* Student's country of birth, as stated in specific question in a survey.

4. *Ethnicity of the students.* Student's racial identification, as stated in specific question in a survey.

5. *Cross-cultural competence.* Degree of disparity or correspondence in answers to a survey, which could be obtained by class, by university, or as a number for the whole population.

The following section includes a detailed taxonomy of my research design, analyzing several dimensions that explain the nature of the study I conducted.

Research Design

According to Leedy and Ormrod, design is “the complete strategy of attack on the central research problem” (91). The research design, they add, “provides the overall structure for the procedures that the researcher follows, the data that the researcher collects, and the data analyses that the researcher conducts” (91). I will explain the research design used in this dissertation through the following perspectives introduced by Cooper and Emory (114-5):

The degree to which the research problem has been crystallized. My dissertation research had a hybrid design, including elements of the formal variety because of its structured research questions, variables, and hypotheses. However, it also included an exploratory element because the specific setting in which I conducted the study had not been particularly observed by previous research in technical communication, as I documented in Chapter II. The main exploratory element was in the focus groups I assembled to study interactions between students and instructors in the classroom.

The method of data collection. My dissertation research was also hybrid in this section, with a survey, interviews, focus groups, and quantitative/qualitative analysis of sample documents. However, although I attended some class meetings of technical communication groups at the universities selected for the study, I did not perform a systematic or organized observation of the actors involved in the process. Later in this chapter, the Measurement Tools section will describe my survey (and other data collection devices) in detail.

The power of the researcher to produce effects in the variables under study. My dissertation was of the ex post facto type, since I did not conduct experiments in which I was able to manipulate the variables included in the research questions. This chapter also has a specific section dedicated to the characteristics of ex post facto research design.

The purpose of the study. The study was partially descriptive and partially causal. Research questions Q1 and Q2 are causal, and then research questions Q3, Q4, and Q5 are descriptive. In this chapter I explain both the descriptive and causal components of the dissertation.

The time dimension. The study was cross-sectional because I performed the research during a specific time period, instead of following the students' performance during a whole semester or another structured time frame. The Population and Sample section in this chapter gives more details about the time constraints of my analysis.

The topical scope–breadth and depth-of the study. Since I did not select a random sample, my dissertation was fundamentally a case study. I selected the units to be analyzed based on one essential characteristic: they were American universities in the El Paso/Ciudad Juarez border zone with undergraduate courses in technical/professional communication. Like the previous item, this element is further discussed in the Population and Sample section of this chapter.

The research environment. Based on the explanation from the previous entry, I consider the study as performed in a field setting. In three different research trips, I traveled to Las Cruces, New Mexico (twice), and El Paso, Texas, to gather data for the research process.

The subject's perceptions of the research. The subjects in my study were not deviated from their everyday routines while I was conducting the research. All my measurement tools were applied in the subjects' own academic setting.

The following sections will provide additional details about the type of study conducted for my dissertation, grounding the methodological decisions on relevant literature.

Descriptive and Causal Studies

The purpose of my study demanded a hybrid research design. I was interested in observing certain relations among variables or measurable terms included in my research questions. However, many of those variables, which were described earlier in this chapter, demanded a descriptive approach, since they could not be controlled and had to be observed in their everyday interactions. Hence, the purpose of my research had components of descriptive and causal studies, depending on the type of variable included in each research question.

Writing about descriptive studies, MacNealy mentions that in projects of that category "the researcher attempts to preserve the natural setting when collecting data. Thus, the researcher gives up the goal of trying to control variables" (44). I did not attempt to establish control groups when conducting my study, and likewise I could not manipulate most of the variables measured. For example, I could not alter the number of Mexican students in the classes I observed, just like I could not manipulate the attitudes toward multicultural issues in technical communication from the instructors observed in

my research. Instead, I focused on observing the classes and applying my measurement tools in the participants' habitual setting. This means that my standard procedure was to contact, by email or telephone, instructors willing to let me work with their courses. Once I had the instructors' authorization, I scheduled appointments with them and traveled to the universities being studied. Once there, I interviewed the instructor and asked for permission to request sample documents from the students. After the interview, I walked into the classroom with the instructor, who introduced me to the class and let me apply my survey and conduct my focus group with the students.

Nonetheless, when I ask "Which factors affect the nonimmigrant Mexican students' ability to learn how to produce and consume technical documents written in English?" and "How does the high presence of nonimmigrant Mexican students affect, for better or worse, the cross-cultural competence in the technical communication service course in border universities?" I am looking at causal relationships. Cooper and Emory point out that "in a causal study we try to explain relationships among variables—for instance, why the crime rate is higher in city A than in city B" (116). As a result, the purpose of my study also had a causal component, which, as I will explain in the following section, should not be confused with its causal-comparative component.

Causal-Comparative (Ex Post Facto) Design

Regarding the power I had over the relationships between the research variables, I can identify the study as causal-comparative or ex post facto. Leedy and Ormrod define this type of design as one that "provide(s) the means by which a researcher can examine

how specific independent variables [...] affect the dependent variable(s) of interest” (242). Likewise, Gay and Airasian add that “in causal-comparative research, the researcher attempts to determine the cause, or reason, for preexisting differences in groups of individuals.” They add that in this type of design “it is observed that groups are different in some variable and the researcher attempts to identify the main factor that has led to this difference” (349).

Applied to my research questions and propositions, this means that I tried to explain why the nationality and ethnicity of the students in a technical communication course at U.S.-Mexico border universities had an effect on the level cross-cultural-competence of the classroom as a group. I also tried to explain how those independent variables, combined with the instructor’s level of interest in teaching multicultural communication affected the effectiveness of technical documents produced by students in those courses. Hence, my role was to identify those differences and attempt to find their causes, yet I did not have any control or authority over the relationships among the variables.

Case Study: Data Collection Protocol

As I mentioned earlier in this chapter, the scope of my study did not involve the selection of a random sample. Instead, I decided to work with a case study design, based on the specifics of the population to analyze. I conducted a case study, instead of working with a random sample of subjects, because in this case randomness would have affected the variables of students’ nationality and ethnicity, which were critical for my project.

My intention was to obtain a snapshot-like representation of the cultural diversity in the classrooms, and a random sample would have generated groups in which that diversity was secondary to the chance of being selected for the study. Furthermore, my case studies were very specific to a certain geographical-cultural area of the U.S.-Mexico border, and for such specific studies, in which I did not have control of behavioral events, sampling is not a recommended technique. Yin writes that “any application of this sampling logic to case studies would be misplaced” (48), mainly because case studies are not the best method for measuring the prevalence of phenomena on a large population. Instead, Yin suggests the replication of a study, which is exactly what I did: I designed a data collection protocol that I replicated to three cases (two of them in NMSU and one in UTEP).

Setting

I conducted the study at New Mexico State University and the University of Texas at El Paso.

Actors

The study had different types of participants, which can be generally classified as students, instructors, and researcher.

Students. This group included nonimmigrant Mexican students, American students (Hispanic, White, Asian-American, African-American, etc.), and international

students from countries other than Mexico, enrolled in professional or technical communication service courses.

Instructors. Teaching assistants or faculty in charge of the technical communication service course.

Researcher. The researcher is a Mexican nonimmigrant student of technical communication at an American university. He was born and lived for 29 years in Yucatan, Mexico, and thus he does not belong to the U.S.-Mexico border culture. He has been teaching the technical communication service course since July 2002 at Texas Tech University.

In Chapter II, I included Thatcher's suggestion for distinguishing broad rhetorical and cultural patterns from regional, organizational, and personal patterns. Hence, it is necessary to take under consideration the cultural differences existing among nonimmigrant Mexican and Mexican-American students in American institutions of higher education depending on geographical and socioeconomic factors. Anzaldua points out that Mexican-Americans are "a complex, heterogeneous people, we speak many languages." In the same page she mentions a few of those languages, making a clear difference among "Chicano Spanish (Texas, New Mexico, Arizona and California have regional variations) and 'Tex-Mex'" (77). Therefore, avoiding false generalizations, I concentrated my empirical study on the specific region of the El Paso/Ciudad Juarez border crossing. However, during my research I was able to observe that even the Mexican-Americans of El Paso and Las Cruces have differences in language and traditions, as I will explain in Chapter IV.

Moving to the organizational level, the research took place in two institutions of higher education in that area: New Mexico State University (NMSU), and the University of Texas El Paso. The University of Texas at El Paso (UTEP). I decided to study these two institutions because they are the only two universities in the Ciudad Juarez-El Paso border zone offering introductory courses in technical communication.⁴ Other universities in border areas of California, Arizona, and even Texas teach that course too, but they do not belong to the specific cultural zone I wanted to analyze. Looking at Thatcher's work again, I can say that including other universities would have broadened the regional pattern of my study, and following Yin's recommendations, it would have added further replications of my case study, generating discrepancies in my variables due to behavioral or cultural factors. Chapter VI includes a section regarding the possibility for future studies based on this dissertation, which could expand its scope in order to include other border zone universities. The universities I worked with were:

New Mexico State University. I first contacted Barry Thatcher, director of graduate studies in English at NMSU, in the spring of 2002. We discussed the possibility of conducting research for my dissertation with students from their program. At that point, my study was not yet fully developed, and I was interested in applying a survey and analyzing papers produced by technical communication majors in advanced courses. However, as I mention in Chapter I, eventually I opted for the introductory course to the

⁴ El Paso Community College (EPCC) does offer a course in technical writing, but using a two-year institution would introduce a complicating variable to the research project.

field, which is taken by many non-majors in technical communication and thus has a deeper impact on the university's overall population. In the summer of 2003, I received a dissertation/thesis research award from the Graduate School at Texas Tech University, and made my first research trip in the month of July. The online course schedule at NMSU mentioned that in the first summer term of 2003 the English Department was offering two sections of English 218 (Technical Writing) and one of English 318 (Advanced Technical Writing). For the purposes of my study, both could have been considered as "service courses" in technical communication taken by many non-majors and with a university-wide appeal.

Through Barry Thatcher and Stuart Brown, chair of the English department at NMSU, I was able to contact the three instructors in charge of those classes, and requested their help with my research process. I asked for one class meeting of each section, in which I would apply my survey, and conduct a focus group session with the students. I also requested an interview with the instructors during their normal office hours and asked authorization for requesting students willing to send me copies of their reports, proposals, and instructions produced in the class. I also had to request permission to conduct my study at the NMSU campus through the Institutional Review Board of the university. After a couple of weeks, and because of the hectic pace in a summer class, I received responses from the instructors (I decided to assign them codenames, instead of using their real names and gender, because two of the NMSU instructors asked to remain anonymous in the report). Instructor NMSU1 sent me an email message on 06/03/2003 agreeing to participate in the study. NMSU0 replied to my request the same day,

declining to participate, arguing that his/her summer syllabus did not allow him/her to “spare even a half class period, let alone a full one.” On 06/09, NMSU2 agreed to participate in the study and, like NMSU1, gave me an appointment on the last week of class. However, NMSU2 asked to have “at least 30 minutes with my students,” and only gave me one hour to work with his/her group.

I traveled to Las Cruces on 06/18 and had scheduled appointments with NMSU1 on the 19th and NMSU2 on the 20th. I interviewed NMSU1, a teaching assistant, before his/her class in a room of the main office of the English department. We then moved to his classroom, where I faced the 18 students in that section. Wearing dress trousers and shoes, and a Cuban *guayabera* shirt, I contrasted with their instructor, who was wearing jeans, a t-shirt and sandals, and had a very casual and friendly approach. After applying my survey, I attempted to conduct the focus group session (this chapter includes details about my measurement tools), but the students were intimidated and almost silent. Probably they were used to the informal and casual teaching approach that NMSU1 implemented in that class. The instructor only spent a couple of seconds introducing me, and then the class was mine. However, the students were still looking at the instructor as if expecting for his/her directions. I asked the students to send me voluntarily samples of the documents produced in the course, and then the instructor helped me to emphasize that point. Nonetheless, I did not receive a single writing sample from that class. I worked with that classroom for an hour and 10 minutes.

The next day I interviewed NMSU2, a lecturer interested in incorporating a service learning component to the technical writing class, in his/her office at the English

department. We moved to his/her classroom, in an edifice adjacent to the English building, and I faced the problem of dealing with a small audience in a big room. The classroom was a small auditorium and there were only 13 students in class that day, early in the morning and in the last week of the summer term. Despite the instructor's assistance, conducting the focus group session was difficult. The students were not involved and some of them arrived late, during the focus group session, and had to take the survey then. I requested volunteers to send me samples of their papers, and the instructor promised he/she would collect them for me. After an hour, I finished the focus group session and left the room, where NMSU2 still worked with the students for 30 minutes more. A few weeks later, I received a large package with all the proposals and final reports (both projects were collaborative in NMSU2's class; hence, I received a total of five proposals and five reports) produced by his/her students, classified in manila envelopes and even with annotations in post-it notes. I returned to Lubbock with the results of my survey coded in an Excel spreadsheet and audio recordings of my interviews and focus group sessions.

For the second summer term, I found out through Thatcher that one instructor was scheduled to teach two sections of 218. I emailed him/her and on 07/11 I received a message in which he/she stated: "I would be happy to help you as much as I can. And, by a happy coincidence, August 1 would be the ideal date for you to conduct your research because the scheduled activities for that date are minimal." Since he/she was teaching two sections of 218, one after the other, I planned a 24-hour trip to Las Cruces. However, following Yin's recommendations to use feedback when conducting a multiple-case

study (Yin 50-51), I redesigned the protocol looking to improve student participation during the focus group sessions. I realized that my approach as a serious and reporter-like intruder in the classroom was not very effective during my first trip, and I changed it by using a technique proposed by Krueger and Casey. These authors mention that in a focus group session “a friendly manner and a sense of humor are valuable assets” (Krueger and Casey 100). They add that “humor is a powerful bonding agent, particularly when it is spontaneous and not at anyone’s expense.”

I went back to Las Cruces late on 06/31, and in the morning of 07/01 I interviewed NMSU3, a lecturer, who had a very formal and conventional approach to the technical writing service course, unlike NMSU1 and NMSU2. After an interview in his/her office, in which I did not reveal my humor strategy for the focus group session, we went to his/her first class, with 22 students. NMSU3 asked me if he/she could give a short quiz to the students and collect some papers before my intervention, and that took less than 15 minutes. During the quiz, I was sitting and barely moved. As soon as he/she introduced me, however, I opened with a joke about the class being so early in the morning. The students were not expecting it, and neither was the instructor. I applied my survey and found room to make a few more jokes that made the students comfortable, but still maintained a professional mood in the classroom. As a result, the focus group session was much better than in my first trip. The students were talking and asking questions about the survey, and the level of participation was positive. When requesting sample documents, I also made a joke to emphasize that I would not reveal their names in my

dissertation, and that they could sue me if I did. I was with the group for one hour, and a couple of days later I received one collaborative report and two proposals from them.

Immediately after the first class, we walked to NMSU3's second classroom, with 21 students. The instructor gave the same quiz, collected a few papers, and then introduced me, but this time warned the students that I was not "as serious as he looks." The focus group session was very active, and probably the best of my whole study. From that group, I received one progress report, one proposal, and one collaborative final report. At the end of the class meeting, NMSU3 told me that he/she had some instructions assignments that he/she was still grading, and asked me if I was interested in photocopying them. I accepted without hesitation (neither NMSU1 nor NMSU2 had an instructions assignment that summer) and photocopied 12 papers from the students. I returned to Lubbock with my sample instructions, the results of my survey coded in Excel, and recordings of the interview and focus group sessions.

University of Texas at El Paso. Originally, my dissertation idea was generated after a visit to El Paso in the summer of 2001. Curious about their bilingual (English-Spanish) certificate in professional writing, I visited UTEP in 2001 and met one of the program's professors, John Scenters-Zapico. I stayed in touch with him and emailed him occasionally, gathering preliminary information for the study. UTEP was supposed to be the first, and at one time the only, university to study in my research. However, I decided to include NMSU after meeting Barry Thatcher and discovering that UTEP and NMSU are similar in having high numbers of Mexican and Mexican-American students, but different in that NMSU has more Anglo students than UTEP. When I received the

summer dissertation/thesis award in 2003, I called Scenters-Zapico and tried to schedule research trips to El Paso in the summer, possibly to even combine them with my trips to Las Cruces. However, UTEP did not offer technical writing courses in the summer. Hence, I decided to conduct my two initial studies in NMSU during the summer and travel to El Paso early in the Fall semester. My only contact at UTEP was Scenters-Zapico, who fortunately was scheduled to teach two sections of English 3359 in the Fall semester.

I emailed Scenters-Zapico (or UTEP1) and he informed me that one of his technical writing sections was going to be a bilingual (English-Spanish course), which was an interesting addition to my research, but at the same time forced me to redesign the protocol again. In order to accommodate the unique approach of UTEP1's bilingual class, I decided to eliminate the focus groups (which were problematic and whose limited success depended on jokes) and instead added a component of analyzing journals that the students were keeping on an online application used by the instructor. These individual journals complemented (and in many cases explained) the collaborative documents collected from UTEP1's classes. Therefore, my revised protocol for UTEP included the survey, interview with the instructor, analysis of students' journals online, and collection of sample documents. I traveled to El Paso on 10/13 and worked with UTEP1's classes on 10/14 (bilingual technical writing) and 10/16 (English-only technical writing). I interviewed the instructor for the first time on 10/14 before the class, and then conducted a second interview before the second class on 10/16. I applied my survey to both classes and observed the interactions among students and instructor, jumping from English to

Spanish on the first class (with 16 students), and sometimes even during the second class (with 21 students), something that never happened in NMSU. UTEP1's final assignment for both classes was to develop a website showcasing the students' semester-long project. Hence, I did not need to collect sample papers, since they were going to be online. UTEP1, however, did give me access to the electronic journals kept by his students on a web application called The Journal Place, developed by UTEP1 himself. The two classes produced a total of 10 websites, which I analyzed through a focus group grading session. I came back to Lubbock with the results of my survey coded in the Excel spreadsheet, and recordings of my interviews with UTEP1. The following section gives details about the data-gathering techniques used in my research.

Measurement Tools

Aiming to measure the variables originated by the research questions, the study used the following data-collecting tools, briefly introduced in the previous section, during the Summer (for NMSU) and Fall (for UTEP) academic terms of 2003:

Survey

Administering a survey to the student participants was essential for measuring the variable of cross-cultural competence. A cross-sectional survey, administered once prior to the next forms of data collection, provided an effective snapshot on the status of the classroom's multicultural ambience. The survey was given to the students taking the service course in technical communication in the selected groups at the two selected

institutions. A total of 111 students were surveyed during the research process. Instead of creating my own instrument, which I would have had to test for validity and reliability, I used an existing questionnaire for measuring cross-cultural competence. My survey was a slightly modified version of the cross-cultural competence questionnaire used by Hampden-Turner and Trompenaars. Earlier in 2003, I contacted the Trompenaars/Hampden-Turner consulting group and obtained authorization from Maarten Nijhoff Asser, manager of their office in Boston, to use and modify their questionnaire. Chapter IV presents the results obtained from the survey in my research. Additionally, Appendix A includes my complete survey.

The survey, known as Intercultural Awareness Profiler, is based on the dimensions of cultural differences proposed by Trompenaars and Hampden-Turner, which I explained in Chapter II. It included seven sections, which were:

Section 1: Scenarios. Questions in this section address the dimension of universalism-particularism.

Section 2: Context data. Questions in this section provide general demographic information about the students (gender, age, nationality, ethnicity, major field of study, and classification in college).

Section 3: Life situations and events. Questions in this section address the dimension of individualism-communitarism.

Section 4: Involvement in relationships. Questions in this section address the dimension of neutral-affective.

Section 5: Life events. Questions in this section address the dimension of achieved status-ascribed status.

Section 6: Events. Questions in this section address the dimension of specificity-diffusion.

Section 7: Personal convictions. Questions in this section address the dimensions of achieved status-ascribed status and inner direction-outer direction.

Interviews

A very important stage of the field research included interviews with the instructors in charge of the 6 sections of technical writing I worked with. All the interviews were conducted face to face and, with the interviewees' authorization, I recorded the conversations with a small digital voice recorder. Table 3.1 offers some background information about the instructors interviewed. As explained earlier in this chapter, I assigned them codenames, instead of using their real names.

Table 3.1: Information about instructors interviewed

Codename	Ethnicity	University	Sections taught
NMSU1	Hispanic	NMSU	1
NMSU2	Hispanic	NMSU	1
NMSU3	Caucasian	NMSU	2
UTEP1	Caucasian	UTEP	2

The interviews could be labeled as informal, which MacNealy defines as those in which “the researcher usually has at least one topic in mind, but the wording of the

questions [...] (is) flexible to take advantage of conditions of the interview” (204).

Therefore, I did not have a structured questionnaire for the interviews, but I did want to cover at least two main topics:

How the instructors were managing the multicultural classroom. This section was based on the competencies for NAFTA management proposed by Abbott and Moran, which I included in Chapter II.

How the instructors were teaching multiculturalism in the classroom. In order to find out about this section, I had a semi-structured template with three basic questions:

1. Do you make the multiculturalism of the classroom an important factor during the course or do you think it is not a relevant factor in the teaching of technical writing?
2. Do you try to balance or combine cultural backgrounds in teams when you assign collaborative projects?
3. Do you require additional readings on multicultural communication besides your course textbook?

Chapter IV includes the results from my four interviews with instructors of technical communication in border universities.

Focus Groups

Looking for more explicit data to complement the answers to the survey, I decided to hold focus group sessions with the students, instead of picking random individuals to interview. As mentioned before, the concept of randomness would have

affected the results of my study. Hence, the focus groups provided an option for listening to all the students at the same time. MacNealy mentions that focus groups work under the assumption that “interaction of members of a small group will facilitate the uncovering of ideas that probably wouldn’t surface if individuals were asked separately” (177), and that was exactly what I wanted to achieve.

Following the questioning route proposed by Krueger and Casey (44-5), I asked the students the following during my focus group sessions:

Opening questions

Is there anything that you would like to add to the survey you just completed?

Did the survey make you aware of the cultural differences that might exist in this classroom?

Introductory questions

Why did you decide to study at this university?

Where do you come from?

Transition questions

Did you have any expectations about the effect of Las Cruces/El Paso’s multicultural population might have on your college experience?

Have you experienced cultural differences-related problems in any of your courses here?

Key questions

Do you perceive any relationship among your cultural background and your understanding of the technical communication genres?

Did your previous education (high school, freshman composition) prepare you for the kind of work experienced in this class?

As member of your specific ethnic/cultural group, do you perceive the kind of work conducted in this class as useful for your purposes?

Do you feel more confident or less confident than your classmates in this course?
If so, why, or why not?

Ending questions

Is there anything else you might want to discuss?

Would you like to give me further detail of the experiences discussed here in an email message or a personal interview?

In Chapter IV I talk about the results obtained from the focus group sessions. However, as I mentioned in this chapter, it was very difficult to get the students to talk. My focus groups with NMSU1 and NMSU2 were very quiet, and I ended up doing most of the talking with the instructor. For the classes taught by NMSU3, I used some humor. The results were slightly better, but still not totally satisfactory. Therefore, and although I did not conduct a structured observation of any class I attended, in UTEP I decided to redesign my protocol once again, following Yin's recommendations, and skip the focus groups. Instead, I observed the interactions between students and instructor through their activities scheduled for the day. I asked UTEP1 for time at the beginning of each class to introduce my project and apply the survey, and once that task was completed I moved to

the back of the classroom and observed the students presenting prototypes of their projects.

Sample Documents

According to Tippens, as mentioned in Chapter II, an ideal plan to globalize the content of the service course includes modifications for the content of letters, resumes, instructions, memos, research papers, oral reports, and visual aids (403-7). However, that approach would not be effective for the selected setting. The two institutions analyzed offer separate courses on technical and professional communication, and the genres mentioned by Tippens are split between them. Instead, the study focused on a limited list of service course genres—in order to perform a more thorough analysis of the course's production for the specific setting.

Killingsworth and Gilbertson refer to the report, the manual, and the proposal as “the major genres of technical communication” (73). As a result, in order to measure the variable effectiveness of technical documents created, I planned to request permission from the instructors to collect sample proposals, manuals, and reports from their students. I could not force students to give me their papers, so I told them it was an optional task and that I would appreciate their help. I mentioned before that the exceptions were NMSU2, who kindly photocopied (and inserted comments and explanations on them) almost all of his/her students' final reports and sent them to me by mail in August, and NMSU3, who allowed me to photocopy some manuals produced by his/her students while I was in Las Cruces. Yet, I also found out that those main genres of technical

communication were not universal for the instructors I worked with during the research. One of them did not even teach reports and had the proposal as the final document of the term. His/her explanation was that the department did not specify the assignments to include in the course. Table 3.2 illustrates the differences among genres taught by the instructors.

Table 3.2: Main genres taught by the instructors interviewed

Instructor	Proposal	Manual	Report
NMSU1	Yes	No	No
NMSU2	Yes	No	Yes (Collaborative)
NMSU3	Yes	Yes	Yes (Collaborative)
UTEP1	No	Optional in report	Yes (Collaborative)

I struggled for several weeks looking for the best way to measure the variable of effectiveness of the sample documents, and then concluded that the only way was to grade them. However, I did not want to perform a subjective one-person grading, and decided to organize focus group sessions with five instructors of the technical writing service course at Texas Tech University. I divided all my sample documents (including UTEP1's websites) in two groups, and gave one group to the two first graders. These graders had to give them a numeric grade on a scale of 0-100. Once they were done grading their first half, they exchanged papers and second-graded the documents. If the numbers assigned to the same document differed by more than 8 points, the third grader intervened to reconcile the number. The final grade was either the average of the first two

grades or the third grade (when the first two had a difference equal or bigger than 8 points). Since there is no one absolute way to grade technical documents and every instructor has a specific way to evaluate them, I used grading rubrics based on the textbooks used in the classes I researched. Even if the instructors were not teaching exactly what the book said (NMSU3 was the only one following the book), they all had required textbooks. Table 3.3 lists the textbooks used by the instructors interviewed.

Table 3.3: Textbooks used by the instructors interviewed

Instructor	Textbook
NMSU1	Technical Communication: A Reader-Centered Approach, by Anderson
NMSU2	<i>Technical Communication</i> , by Lay, Wahlstrom, et al. The instructor also incorporated elements of <i>Service-Learning in Technical and Professional Communication</i> , by Bowdon and Scott
NMSU3	Technical Communication: A Reader-Centered Approach, by Anderson
UTEP1	Technical Communication, by Lannon

I also conducted an informal qualitative analysis of the sample documents compiled, emphasizing cultural differences and multicultural concepts that were evident in the papers. Regarding the online journals from UTEP1's students, I did not give them numeric grades, since they did not follow a specific genre or format. Instead, I performed

a qualitative content analysis of the students' comments. Chapter IV provides detailed information about this part of my work.

Recapitulating, Table 3.4 shows the relations between the research questions and the tools proposed for data collection.

Table 3.4: Relations between research questions and data collection tools

Question	Survey	Interviews	Focus Groups	Documents/Journals
Q1		X	X	X
Q2	X		X	
Q3	X		X	X
Q4	X		X	X
Q5		X	X	

Conclusion

This chapter explained key aspects of the research process conducted for my dissertation. It included the statement of the study's hypotheses (propositions), variables, and operational definitions generated by the research questions. Those propositions are:

If their instructor does not address the multicultural nature of the class, nonimmigrant Mexican and Mexican-American students in technical communication courses might not be able to produce effective technical documents.

The high presence of nonimmigrant Mexican students in technical communication classes affects the level of cross-cultural competence in service course classes at border universities

Native English speaking students produce more effective technical documents than nonimmigrant Mexican students in technical communication courses at border universities.

The chapter also included a detailed taxonomy of my research design, which can be described as a case study with descriptive and causal components. Then, the chapter listed the measurement tools used for gathering data, among them: a survey based on the work of Trompenaars and Hampden-Turner, interviews with instructors, focus group sessions, and analysis of sample technical documents produced by students. Chapter V includes the analysis and interpretation of the results obtained through the research process.

CHAPTER IV

RESEARCH RESULTS

In Chapter III I explained the methodological components of my dissertation, including a detailed taxonomy of the research design, statement of the propositions and variables generated by the research questions introduced in Chapter I, and listing of the tools used to measure those variables during the research process. Those measuring methods were: interviewing instructors, applying a cross-cultural competence survey to students, holding focus group sessions with students, and grading/qualitatively analyzing sample documents and students' online journals produced in technical writing courses. This chapter presents the results of my research, conducted during the months of June and July, for New Mexico State University, and October, for the University of Texas at El Paso, of 2003.

In this chapter I present a general overview of each measurement tool for the whole population studied, and then I split the data according to my research variables and other relevant criteria determined by the survey. The chapter is divided by case/instructor, and then I provide cross-case results for each university studied, and then I summarize the results for the whole population of my research.

Report on the Case Studies

As I showed in Table 3.4, each measuring tool employed during the research process was related to one or more of my original research questions, and this triangulation generated a variety of results. Therefore, the data obtained through the application of those methods had to be reported in different ways. This section explains the way in which each method was reported.

Interviews

I interviewed four instructors teaching the introductory technical writing course at NMSU and UTEP. I was looking for answers to very specific questions related to the instructors' interest in teaching about multiculturalism in the classroom and the way the instructors were addressing the racial diversity in their classrooms. Hence, I did not conduct in-depth interviews with the intention of profiling each instructor, and actually two of them asked to remain anonymous in the report, which because of the size of my population did not even allow me to reveal much information on their gender and background without revealing their identities. According to Seidman, "not all interviews will sustain display in the form of a profile," but others "might sustain what I call a vignette, which is a shorter narrative that usually covers a more limited aspect of a participant's experience" (102). I decided to create vignettes of each instructor, focusing the narrative on the information related to my research questions, but also allowing some background information to show richer and more complex individuals instead of simple checkboxes for my variables. In addition, in order to enhance the relevance of their

answers as related to my questions, I included some visual data displays in the form of tables summarizing their opinions.

Survey

In Chapter III I mentioned that my survey was based on a questionnaire used by Trompenaars and Hampden-Turner to measure the variable of cross-cultural competence. SPSS statistical software allowed me to calculate frequencies in the responses I received on my survey, and it also permitted a “data split” by variable and even by question in the survey. The results of the survey are presented later in this chapter in tables and graphs generated in Excel based on the SPSS analysis.

Focus Groups

For the four focus group sessions I conducted in NMSU, I decided to analyze and report the information using the “Tape Based-Abridged Transcript” technique proposed by Krueger and Casey. This method “relies on listening to a tape recording of each focus group and then developing an abridged transcript of the relevant and useful portions of the discussion” (Krueger and Casey 131). In this case, however, I used a digital recorder and transferred the audio files to a computer. My abridged transcripts are based on the students’ interventions, which were very few in the two first classes studied. Just as I did with the interviews, I concentrated the focus groups’ report on the answers and observations related to my research questions, but also allowed some external elements that describe the idiosyncrasies of each classroom studied.

Sample Documents and Journals

In Chapter III, I explained the fundamentals of the methodology used to grade the documents compiled during my research. In this section I add some specifics and adaptations that I was forced to perform when one of the web servers at UTEP, including 10 sample websites I intended to grade, had some problems precisely when I was holding the grading focus groups. During the grading session, two instructors gave a numeric grade between 0-100 to each paper, and a third grader intervened when the difference between the first two grades was of 8 points or more. The graders attempted to evaluate UTEP1's reports, which were submitted as websites, but they were not available because the University made changes in their web servers and some directories were temporary lost. I contacted UTEP and a few days later the projects were online again, but two of the 10 websites lost their functionality and only showed a background image and no content or navigation tools. Probably, the changes in directories caused some broken links that affected those websites using Java technology for their navigation tools. Instead of holding a second grading session, I asked the graders to evaluate the websites whenever and wherever they could, and told them to email me their grades. Once I received their grading reports, I talked to them in person and obtained some impressions about the documents. Table 4.1 shows the types of documents I obtained from each instructor involved in my study.

Table 4.1: Types of documents obtained from each instructor

NMSU1	NMSU2	NMSU3	UTEP1
0 Proposals	5 Proposals	1 Proposal	0 Proposals
0 Instructions	0 Instructions	12 Instructions	0 Instructions
0 Reports	5 Reports	3 Reports	10 Reports

Regarding UTEP1's online journals, I conducted a qualitative content analysis looking for ways to determine if the students were mastering the representation of the technical communication genres taught by the instructor in his bilingual and English-only technical writing courses. Since the journals were written intermittently in English and Spanish, and most of them have spelling errors due to the chat-like nature of the interface used to enter the journals, I did not conduct a quantitative word analysis. The following section reports the results of each method, classified by case/instructor studied.

NMSU1

Interview. The following is a vignette based on the interview I conducted with NMSU1:

For my technical writing class this summer session, I moved away from the textbook because I found out that most of the textbook implies that students are going into some kind of corporate sector, and most of these students are first, second year students and they don't even know where they are heading in the future. And, for expediency's sake too: most of them are taking all these courses, so how much time will

they have to read for this class? I decided to create a packet of readings which includes articles from topics such as environmental, multicultural, and gender issues in technical writing. I am using Anderson's book for the case studies only.

I do have control over my syllabus, and the English department does have some general requirements for the technical writing instructors. The department requires the Anderson text; we are supposed to have students buy it, but I decided to throw it out the window, regardless what the department says. My packet of readings is under the table.

In this summer class we are writing technical documents including memos, a resume, an assignment on visual rhetoric, a broadsheet, and a proposal as the final paper of the term. The proposal should include a small literature review of 4 or 5 sources. We write the documents following the guidelines from the textbook.

I think that the multicultural background of my students is really important this semester. Maybe it was not before, because I used a standard syllabus that the department created. One of my principles for teaching this class is that you can't create assignments to address every single culture, but you can use one or two examples to address everyone in the classroom. This term I think I have students from Saudi Arabia, India, some other places in the Middle East, and Chicanos... *Mexicanos* from Juarez, and I took that under consideration when designing the syllabus.

I would define my approach to teaching the course this term as an exploration on gender and environmental issues in technical communication from a utilitarian, qualitative perspective. We do a lot of work in teams. In one exercise we analyzed the Chase Manhattan memo requesting the elimination of the Zapatista Army in Mexico. I

wanted to show the students the ethical repercussions of that document, which I can describe as a work of the corporate section perpetuating genocide. One group of students was acting as a human rights group, one was protecting the corporation, and another was composed of people with student loans under Chase. We were able to create some political forces, and I think technical communication needs that. I see technical communication as real dry, pretty much sterilized, neutralized, and depoliticized. My intention with this assignment was to put the politics and theory back in it.

Some students didn't like the assignment, probably because they were more conservative. I can see that I silenced some, but they can tell my position early on in the semester and they try to write to my interests. We have a friendly classroom environment, but the power situation remains and they know I am in charge of the grades. I have to say that my Chicano students were really conservative and were hesitating with the assignment.

Whenever we work in teams, the students select their own groups. I try to get away from calling names and it is not my intention to balance the cultural or ethnic representation in the teams. This term, only one group is not ethnically, culture-balanced. They are *Anglos*. I see them in their corner and I don't really move them, all I can do is suggest that they should get to know each other, but I don't force them.

I can see that most students are preoccupied with a grade, but I try not to grade. I evaluate them with holistic, constructive feedback, rather than a grade. And at the end, based on their so-called progress, I give them a grade based on attendance and progress

on revision. I don't grade on grammar, but I guess *Mexicanos* and Chicanos have problems in that field.

Depending on what happens this term with my syllabus, I might go back to the textbook in the future and teach with the department's syllabus. It depends on the student evaluations. I like to read their comments because I feel that I had an impact on the students.

When I am not teaching technical writing, I am working to get my Ph.D. in Rhetoric. I am from El Paso, and my dissertation is about the experience of Chicanos in higher education. It is a rhetorical analysis of experiences, and it includes many interviews. I like to listen to their stories. It is a quasi-ethnography that I am conducting here at NMSU.

Survey results. NMSU1's class had a total of 18 students (12 male and 6 female) the day I worked with them. Table 4.2 shows that most of the students in that class were under 20 years old.

Table 4.2: Students' age in NMSU1's class

Age	Frequency	Percent
Under 20	8	44.4
20-24	6	33.3
25-30	1	5.6
Above 30	3	16.7

NMSU1's students were mostly born in the USA (83.3%), but the class also had one student from each of the following countries: Hong Kong, Saudi Arabia, and Thailand. Of the American students, 50% were white, and 27.8% were Hispanic. Table

4.3 shows frequencies and percents for all the ethnic groups represented in the class.

Some students simply wrote “mixed” in the answer to the ethnicity question, and since most of them did not provide details, I decided to create a category for “mixed.”

Table 4.3: Students’ ethnicity in NMSU1’s class

Ethnicity	Frequency	Percent
Arabic	1	5.6
Asian	2	11.1
Hispanic	5	27.8
Mixed	1	5.6
White	9	50.0

In NMSU1’s class, 38.9% of the students were seniors, and only 5.6% were freshmen. Table 4.4 shows NMSU1’s students by classification. Regarding their majors or fields of specialization, 50.1% were from engineering programs, and the rest came from biology, nursing, finance, and business computer systems.

Table 4.4: Students’ classification in NMSU1’s class

Classification	Frequency	Percent
Freshman	1	5.6
Sophomore	6	33.3
Junior	4	22.2
Senior	7	38.9

The following section addresses the survey questions related to measuring the variable cross-cultural competence in NMSU1’s class. Although the complete survey is included in Appendix A, in this section I present the questions adapted from the

Trompenaars and Hampden-Turner questionnaire to be used as reference for all the cases/sections studied in the dissertation.

Universalism-particularism dimension. Based on the model of cultural differences by Trompenaars and Hampden-Turner, which I explained in Chapter II, the survey questions addressing this dimension were:

1. You are riding in a car driven by a close friend, and he hits a pedestrian. You know he was going at least 45 mph in an area of the city where the maximum is 30 mph. His lawyer says that if you testify under oath that his speed was only 30 mph, it may save your friend from serious consequences. There are no other witnesses.

What right does your friend have to expect you to protect him?

The possible answers to this scenario were:

- a) As a friend he has a definite right to expect me to testify that he was only going 30 mph.
 - b) As a friend he has some right to expect me to testify that he was only going 30 mph.
 - c) As a friend he has no right to expect me to testify that he was only going 30 mph.
2. You are a journalist who writes a weekly review on newly opened restaurants. A close friend of yours has sunk all his savings into a new restaurant. You have eaten there and you really think the restaurant is no good.

What right does your friend have to expect you to go easy on his restaurant in your review?

The possible answers to this scenario were:

- a) As a friend he has a definite right to expect me to go easy on his restaurant in my review.
- b) As a friend he has some right to expect me to go easy on his restaurant in my review.
- c) As a friend he has no right to expect me to go easy on his restaurant in my review.

Individualism-communitarism dimension. The survey questions addressing this dimension were (Appendix A can be consulted to explain why the questions apparently jumped from number 2 to number 9 in this section):

9. You are working in a team, and a defect caused by negligence of a member of the team is discovered in one of your projects. The responsibility could be carried by the individual alone, or by the team as a whole. Who do you think should carry the responsibility?

The possible answers to this question were:

- a) The person causing the defect is responsible. Therefore he should be called to account by his superiors.
- b) Because people work on a team, the responsibility should be carried by the group. This time one member has made a mistake. Next time it could be someone else on the team.

10. Which description do you think applies better to an organization in which people work best?

- a) An organization is a place where everybody works together and where people do not get individual credit.

b) An organization is a place where people are allowed to work individually and where people get individual credit.

11. In your opinion, which way of working is most effective?

- a) People work on their own, and each person is pretty much his own boss. Individuals decide most things for themselves such as how to go about getting their job done. They only have to take care of themselves, and they do not expect others to look out for them.
- b) People work together in a group, and everybody has something to say in the decisions that are made. People can depend on one another.

Neutral-affective dimension. Although this dimension is not included anymore in the model of Trompenaars and Hampden-Turner (as presented in their more recent books), the survey I obtained from their office still included questions addressing this dimension. Those questions are:

12. Which of the following four types of people do you prefer to have around you?

- a) People who are ESTEEMED by others and take a continuous interest in human welfare in general.
- b) People who are ENJOYED by others and take their joys and sorrows as they come from day to day.
- c) People who are LOVED by others and take a continuous interest in the personal welfare of those dear to them.
- d) People who are APPROVED of by others and attend to their affairs conscientiously from day to day.

13. Which of the following four types of people do you prefer to have around you?

- a) People who are friendly and enjoyable to work with.
- b) People you can co-operate with to improve the quality and standards of your occupation and profession.
- c) People you can count on to do their jobs or tasks properly, as they should be done.
- d) People you have known and trusted for a long time and feel comfortable working with.

15. There are two extreme ways to consider an organization. Which of these two ways better represent the way you perceive the essence of an organization?

- a) An organization is a system designed to perform functions and tasks in an efficient way. People are hired to fulfill these functions with the help of machines and other equipment. They are paid for the tasks they perform.
- b) An organization is a group of people working together. The people have a social relationship with other people and with the organization. The functioning of the company depends on these relationships.

22. In cases where I feel upset at work, I am inclined to express it.

The options to answer this question were presented using a Likert scale.

Achieved status-ascribed status dimension. The survey questions addressing this dimension were:

14. A teacher asks a student to help him paint his house. The student discusses the issue with a classmate. Which of the two arguments would you support the most?

- a) I do not have to paint the house if I do not feel like it. He is my teacher in the university. Outside the university he has little authority.

b) Despite the fact that I do not feel like it, I will paint the house anyway. He is my teacher, and I cannot ignore that fact outside school either.

For questions 18 to 21, the options for answers were presented using Likert scales.

18. The respect a person gets is highly dependent on the family from which he comes.

19. Men and women are different. Therefore, they should be treated differently.

20. It is important for a manager/supervisor be older than most of his subordinates.

21. Older people should be respected more than younger people.

Specificity-diffusion dimension. The survey questions addressing this dimension were:

16. Of the following two statements, which do you believe to be more in line with your reality?

a) Many of the unhappy things in people's lives are partly due to bad luck.

b) People's misfortunes result from the mistakes they make.

17. Of the following two statements, which do you believe to be more in line with your reality?

a) Most people do not realize the extent to which their lives are controlled by accidental happenings.

b) There is really no such thing as luck.

Following are the results obtained from NMSU1's class after applying the survey.

Table 4.5: NMSU1's students' response to question 1

Answer	Frequency	Percent
Option a	0	0
Option b	7	38.9
Option c	11	61.1

Table 4.6: NMSU1's students' response to question 2

Answer	Frequency	Percent
Option a	2	11.1
Option b	12	66.7
Option c	4	22.2

Table 4.7: NMSU1's students' response to question 9

Answer	Frequency	Percent
Option a	1	5.6
Option b	17	94.4

Table 4.8: NMSU1's students' answers to question 10

Answer	Frequency	Percent
Option a	12	66.7
Option b	6	33.3

Table 4.9: NMSU1's students' answers to question 11

Answer	Frequency	Percent
Option a	2	11.1
Option b	16	88.9

Table 4.10: NMSU1's students' answers to question 12

Answer	Frequency	Percent
Option a	5	27.8
Option b	5	27.8
Option c	7	38.9
Option d	1	5.6

Table 4.11: NMSU1's students' answers to question 13

Answer	Frequency	Percent
Option a	3	16.7
Option b	4	22.2
Option c	10	55.6
Option d	1	5.6

Table 4.12: NMSU1's students' answers to question 15

Answer	Frequency	Percent
Option a	9	50.0
Option b	9	50.0

Table 4.13: NMSU1's students' answers to question 22

Answer	Frequency	Percent
Strongly agree	1	5.6
Agree	11	61.1
Undecided	2	11.1
Disagree	4	22.2
Strongly disagree	0	0

Table 4.14: NMSU1's students' answers to question 14

Answer	Frequency	Percent
Option a	16	88.9
Option b	2	11.1

Table 4.15: NMSU1's students' answers to question 18

Answer	Frequency	Percent
Strongly agree	0	0
Agree	4	22.2
Undecided	1	5.6
Disagree	10	55.6
Strongly disagree	3	16.7

Table 4.16: NMSU1's students' answers to question 19

Answer	Frequency	Percent
Strongly agree	1	5.6
Agree	5	27.8
Undecided	2	11.1
Disagree	6	33.3
Strongly disagree	4	22.2

Table 4.17: NMSU1's students' answers to question 20

Answer	Frequency	Percent
Strongly agree	0	0
Agree	2	11.1
Undecided	2	11.1
Disagree	8	44.4
Strongly disagree	6	33.3

Table 4.18: NMSU1's students' answers to question 21

Answer	Frequency	Percent
Strongly agree	2	11.1
Agree	5	27.8
Undecided	2	11.1
Disagree	5	27.8
Strongly disagree	4	22.2

Table 4.19: NMSU1's students' answers to question 16

Answer	Frequency	Percent
Option a	11	61.1
Option b	7	38.9

Table 4.20: NMSU1's students' answers to question 17

Answer	Frequency	Percent
Option a	3	16.7
Option b	15	83.3

Focus group. In this section I report the results of the focus groups in a narrative for each case/instructor studied. My justification is that the participants' responses were few and mostly isolated. I do not think one person provided an answer for more than one of my questions. Most of the questions were received by silence and then probably one or two answers. At the end of the NMSU section, I include a cross-case conceptually clustered matrix compiling all the opinions and creating a bigger case fed by all four focus groups conducted in NMSU.

In NMSU1's class, the students agreed in stating that they never thought about the multicultural nature of the student population when they decided to attend New Mexico State University.

A white female student mentioned that the only problems related to cultural differences that she ever experienced in college were in courses in which the professor's first language was not English. However, those problems were not related to her technical writing class.

The students said that their previous English classes in high school and college were mostly based on writing essays and personal documents, and they said those courses did not prepare them for the type of work conducted in technical writing classes, but did teach them about writing with a purpose and thinking of the reader-audience.

One student from Saudi Arabia said that technical writing, unlike his previous English or ESL classes, was a positive learning experience because it prepared him to “present myself in my job... the stuff I need for my job to present my ideas. Things I need to learn to communicate with my coworkers.”

At the end of the focus group, and still with some time left for the class, NMSU1 dismissed the students and did not discuss the reading assigned for the day, which was an article on multicultural technical communication by Emily Thrush.

Sample documents. During my visit to NMSU1’s class, I asked the students to send me sample papers and told them that their names would not be used and that their grades would not be affected by their participation in my project. Nevertheless, I did not receive any documents from this class. According to what I reported from his/her interview, NMSU1’s only big assignment in the term was a proposal, and the class did not write instructions or a report with recommendations. Thus, I did not grade any documents from this case.

NMSU2

Interview. The following is a vignette based on the interview I conducted with NMSU2:

I teach English 318, which here in NMSU is the Advanced Technical Writing class. Honestly, I can't find many differences between this course and English 218, which is just Technical Writing. They are very similar. I think the main reason is that NMSU has many transfer students, and some do not qualify for advanced English courses and have to take 218 first. It is a difficult regulation situation.

In my class, I am trying to bring in a service-learning concept next semester (Fall 2003), with projects relevant to the students, reflecting real world writing situations. However, I was told just one week before this class that I had to teach 318 in the summer. I had not fully developed my fall syllabus, so this summer class is a combination of a more traditional technical writing class and what I am planning to do in the Fall with the service-learning component. This combination is even reflected in the readings for the class. We do have the textbook I used in previous classes, the Lay-Wahlstrom book, but I am incorporating bits and pieces of the Bowdon-Scott book on service-learning.

I decided to change my approach because in this class I see a wide range of students, from seniors ready to graduate to freshmen. I see a lot of transfer students, and I think that service-learning allows them to find their interests, regardless of background or major. Service-learning creates a sense of community involvement in the technical communication classroom.

I have also been working with the English department's chair to make 218 and 318 different, because they are not. According to what I am currently teaching, 318 needs a paper (proposal or report), resume, letter, memo audience analysis, and then whatever the student wants to do in the report. It is a semester-long project, and in that paper they identify interests and agencies that could benefit from their project; they also share information with other students. In the past I had an instructions assignment, but not this time.

The way this semester-long paper works is like this: the students get together and find an agency they all can work with. They do this in teams of 3-4 students, and the final report is a good sized document of 10-15 pages, but it can be of 5-10 pages in the summer. They write a proposal to the agency they have identified and they list me as a secondary audience. We work with the models included in the Bowdon-Scott book, and then they perform a usability test and submit their final report. Well... some send them to a real agency and some don't and just keep it as a fictional project.

I have nothing against the Lay textbook, but I think its formats are more academic, and not really workplace-related. The decision over the textbook and then on the document's format always depends on your audience, though.

In the past, I tried to balance the ethnic and cultural representation of students in the teams. Now, the teams form organically around related interests. This summer term I have one team of all men, and some are Hispanic, and some are Anglo. These teams I mention have fewer problems because the members are all men or women. As far as I can tell, all the teams are culturally and ethnically mixed.

Regarding readings on multicultural issues in technical communication, we only see a little bit that comes in the Lay textbook. In the past I have had students from Colombia, Arab countries, and other places, but I think this term all my students are American. However, we do discuss multicultural issues when we talk about collaboration. The students can see cultural differences in their own situation, when they have discrepancies over gender issues, or even because they are from different majors.

Regarding my background, I live in El Paso and I have a Ph.D. in Professional Communication and Rhetoric from NMSU.

Survey results. The day I worked with NMSU2's class, there were only 13 students (7 male and 6 female) in the classroom. In this class, most of the students were between 20 and 24 years old, as Table 4.21 shows.

Table 4.21: Student's age in NMSU2's class

Age	Frequency	Percent
20-24	8	61.5
25-30	1	7.7
Above 30	4	30.8

Regarding nationality, NMSU2's class was the only case studied in my dissertation whose students were 100% American. However, 46.2% of those students were from Hispanic descent, as Table 4.22 shows:

Table 4.22: Students' ethnicity in NMSU2's class

Ethnicity	Frequency	Percent
Hispanic	6	46.2
Mixed	1	7.7
Native American	1	7.7
White	5	38.5

NMSU2's class did not have any freshman students, but had one graduate student.

Table 4.23 shows the classification of the students in this class. 38.5% of the students were majoring in wildlife sciences, and the rest came from fields like biology, linguistics, nursing, and physical therapy.

Table 4.23: Students' classification in NMSU2's class

Classification	Frequency	Percent
Sophomore	2	15.4
Junior	1	7.7
Senior	9	69.2
Graduate	1	7.7

The following section addresses the survey questions related to measuring the variable cross-cultural competence in NMSU2's class. Appendix A includes the complete survey, and the questions related to this section were listed earlier in this chapter when I presented the results from NMSU1's class.

Universalism-particularism dimension. The questions referenced in this case are:

1. You are riding in a car driven by a close friend, and he hits a pedestrian. You know he was going at least 45 mph in an area of the city where the maximum is 30 mph. His

lawyer says that if you testify under oath that his speed was only 30 mph, it may save your friend from serious consequences. There are no other witnesses.

What right does your friend have to expect you to protect him?

2. You are a journalist who writes a weekly review on newly opened restaurants. A close friend of yours has sunk all his savings into a new restaurant. You have eaten there and you really think the restaurant is no good.

What right does your friend have to expect you to go easy on his restaurant in your review?

Table 4.24: NMSU2's students' response to question 1

Answer	Frequency	Percent
Option a	0	0
Option b	4	30.8
Option c	9	69.2

Table 4.25: NMSU2's students' response to question 2

Answer	Frequency	Percent
Option a	0	0
Option b	8	61.5
Option c	5	38.5

Individualism-communitarism dimension. The questions referenced in this case are:

9. You are working in a team, and a defect caused by negligence of a member of the team is discovered in one of your projects. The responsibility could be carried by the

individual alone, or by the team as a whole. Who do you think should carry the responsibility?

10. Which description do you think applies better to an organization in which people work best?

11. In your opinion, which way of working is most effective?

Table 4.26: NMSU2's students' response to question 9

Answer	Frequency	Percent
Option a	3	23.1
Option b	10	76.9

Table 4.27: NMSU2's students' answers to question 10

Answer	Frequency	Percent
Option a	6	46.2
Option b	7	53.8

Table 4.28: NMSU2's students' answers to question 11

Answer	Frequency	Percent
Option a	1	7.7
Option b	12	92.3

Neutral-affective dimension. The questions referenced in this case are:

12 and 13. Which of the following four types of people do you prefer to have around you?

15. There are two extreme ways to consider an organization. Which of these two ways better represent the way you perceive the essence of an organization?

22. In cases where I feel upset at work, I am inclined to express it.

Table 4.29: NMSU2's students' answers to question 12

Answer	Frequency	Percent
Option a	2	15.4
Option b	6	46.2
Option c	5	38.5
Option d	0	0

Table 4.30: NMSU2's students' answers to question 13

Answer	Frequency	Percent
Option a	4	30.8
Option b	2	15.4
Option c	3	23.1
Option d	4	30.8

Table 4.31: NMSU2's students' answers to question 15

Answer	Frequency	Percent
Option a	2	15.4
Option b	11	84.6

Table 4.32: NMSU2's students' answers to question 22

Answer	Frequency	Percent
Strongly agree	1	7.7
Agree	5	38.5
Undecided	4	30.8
Disagree	3	23.1
Strongly disagree	0	0

Achieved status-ascribed status dimension. The questions referenced in this case

are:

14. A teacher asks a student to help him paint his house. The student discusses the issue with a classmate. Which of the two arguments would you support the most?

18. The respect a person gets is highly dependent on the family from which he comes.

19. Men and women are different. Therefore, they should be treated differently.

20. It is important for a manager/supervisor be older than most of his subordinates.

21. Older people should be respected more than younger people.

Table 4.33: NMSU2's students' answers to question 14

Answer	Frequency	Percent
Option a	9	69.2
Option b	4	30.8

Table 4.34: NMSU2's students' answers to question 18

Answer	Frequency	Percent
Strongly agree	0	0
Agree	3	23.1
Undecided	1	7.7
Disagree	7	53.8
Strongly disagree	2	15.4

Table 4.35: NMSU2's students' answers to question 19

Answer	Frequency	Percent
Strongly agree	0	0
Agree	2	15.4
Undecided	1	7.7
Disagree	3	23.1
Strongly disagree	7	53.8

Table 4.36: NMSU2's students' answers to question 20

Answer	Frequency	Percent
Strongly agree	0	0
Agree	0	0
Undecided	3	23.1
Disagree	7	53.8
Strongly disagree	3	23.1

Table 4.37: NMSU2's students' answers to question 21

Answer	Frequency	Percent
Strongly agree	0	0
Agree	5	38.5
Undecided	3	23.1
Disagree	3	23.1
Strongly disagree	2	15.4

Specificity-diffusion dimension. The questions referenced in this case are:

16 and 17. Of the following two statements, which do you believe to be more in line with your reality?

Table 4.38: NMSU2's students' answers to question 16

Answer	Frequency	Percent
Option a	7	53.8
Option b	6	46.2

Table 4.39: NMSU2's students' answers to question 17

Answer	Frequency	Percent
Option a	2	15.4
Option b	11	84.6

Focus group. NMSU2's students started the focus group session with comments about the cross-cultural competence survey. Some of them said that their answers could present differences not only because of cultural issues, but also because of opinion (as reported in the previous section, NMSU2's class was the only one in the study with a 100% American student population).

The students also pointed out that personal ethics and family traditions also create differences not related to ethnicity. One Hispanic female student added that "culture starts in the family, so you react according to what your parents taught you."

The students agreed in saying that they did not think about the multicultural population in NMSU when they decided to attend that school. A male Anglo student said that "it just happened. I lived here. I lived close to this place."

The exception was an Anglo female student who expressed that she "knew it was going to be this way, different than UTEP, because UTEP is closer to the border and has

a very strong Mexican element. For my field in linguistics, this multicultural balance is good.”

Regarding the way in which cultural differences might affect the understanding of technical communication, a female Hispanic student answered: “I think the understanding of papers depends on the instructor. It doesn’t really matter what your cultural background is. As long as your instructor is competent, it shouldn’t be much of a difference.”

About their previous English courses, a Hispanic female student said that “Freshman English prepared me in the grammar, and in the way to express my ideas. We are not on the same level in this class, because the seniors have taken other English classes, but regardless of that I think we are all learning something. Our teacher has prepared us well, and we can solve those problems regardless of the level.”

Sample documents. I collected a total of 10 student papers from NMSU2’s class —5 proposals and 5 reports with recommendations, all of them collaborative projects. For the final report, this instructor had the students write an open-format report. Therefore, some teams created standard reports with recommendations, while others preferred a brochure, a website, and a PowerPoint presentation.

In order to evaluate these documents, I created a grading rubric (Appendix B) based on recommendations from the official textbooks assigned by the instructor (Lay, Wahlstrom et al.) and also including some elements of service-learning taken from the Bowdon and Scott textbook. I gave these rubrics to my group of graders and asked them

to evaluate the effectiveness of the documents as technical papers without thinking about the nationality or ethnicity of the authors.

The average for the proposals collected from NMSU2's class was 84.5, and the average for the reports was 82.8. The overall average grade for documents from this class was 83.65.

The grades assigned to these papers are reported in Table 4.40.

Table 4.40: Assessment of documents produced in NMSU2's class

Document	Grader 1	Grader 2	Difference	Grader 3	Final
Proposal: "Producing Presentation and Education Brochures for New Mexico Department of Game and Fish."	84	87	-3		85.5
Report: "Preventing Poaching... Protecting New Mexico Wildlife."	80	86	-6		83
Proposal: "Producing the Necessary EMS Web Site."	80	90	-10	79	79
Report: "Webpage Design for Emergency Medical Services."	78	89	-11	65	65
Proposal: "It Could Happen to You: Informing Teens about Pregnancy and STDs."	86	92	-6		89
Report: "It Could Happen to You."	83	83	0		83
Proposal: "Producing Documents for Alzheimer's Association."	85	94	-9	82	82
Report: "Keeping it all Together: Coping with Alzheimer's Disease."	94	92	2		93
Proposal: "Producing Two Pamphlets for Southwest Environmental Center."	84	90	-6		87
Report: "Pamphlets for Southwest Environmental Center."	90	90	0		90

NMSU3

Interview. The following is a vignette based on the interview I conducted with NMSU3. I only had five minutes to talk to the instructor before the class, and as a result the vignette is not as detailed as the others in this section.

For this summer class, the final report is a team project. The task is to write a report (empirical study or a feasibility report) on a topic chosen by students. They also have to write a brief proposal memo establishing a contract on the topic they will work on. I let them chose their own topics because, in my experience, I think they do better research on topics when they are not assigned.

As my textbook, I am using Anderson's *Technical Communication: A Reader-Centered Approach*, and I repeat that subtitle like a hundred times in class. The students have to recognize that in technical writing the reader is the most important person. I even describe the differences between creative writing and technical writing in the classroom as two streets: one has the poetry café and maybe a bookstore, and the other has a blueprint, software manuals, and it is ruled by the need for information. If the reader doesn't understand the poetry, it is his problem, but in technical writing it's the writer's problem.

Regarding multicultural issues in technical communication, I don't add anything about the topic to my syllabus. However, Anderson's book has a couple of chapters that include sections on multicultural issues. I spend some time talking about those and I use some examples of my experience from when I was working as a technical writer in

California. In my classes I always have people from overseas countries, including some from Asian and the Middle East.

The balanced representation of ethnic and cultural groups in teams with my students... that's not controlled by me. The teams are formed around project ideas proposed by the students. We have a little marketplace of ideas: in a given day they have to bring an idea, and write all their ideas on the board and ask if someone is interested in each one. The ideas that attract no interest disappear, and I see people jumping to other ideas as the groups are starting to shape around them.

I don't think I have seen any weak points in teams that I could correlate to the representation of ethnic groups. I think, however, that the larger the team, the easier it is to have lazy people, and that's the real problem. That is why I require individual progress reports, even if the final product is collaborative.

Section 1

Survey results. NMSU3's first section had 22 students (15 male and 7 female) the day I worked with this instructor. Table 4.41 shows the age distribution in that class:

Table 4.41: Students' age in NMSU3's first class

Age	Frequency	Percent
Under 20	4	18.2
20-24	13	59.1
25-30	2	9.1
Above 30	3	13.6

Although 77.3% of the students in this section were born in the USA, NMSU3's first section was the case with more representation from other nationalities, as Table 4.42 shows.

Table 4.42: Student's nationality in NMSU3's first class

Nationality	Frequency	Percent
Cuba	1	4.5
Mexico	1	4.5
Philippines	1	4.5
Saudi Arabia	1	4.5
Taiwan	1	4.5
USA	17	77.3

Likewise, Table 4.43 shows frequencies and percents for the variable student's ethnicity in NMSU3's first class.

Table 4.43: Students' ethnicity in NMSU3's first class

Ethnicity	Frequency	Percent
Arabic	1	4.5
Asian	2	9.1
Mixed	1	4.5
Hispanic	5	22.7
White	13	59.1

Table 4.44 shows that NMSU3's first class was mostly taken by juniors and seniors. Regarding their majors, engineering was the dominant field, with 40.9% of the students, and other majors represented were anthropology, biology, wildlife science, and nursing.

Table 4.44: Students' classification in NMSU3's first class

Classification	Frequency	Percent
Freshman	2	9.1
Sophomore	4	18.2
Junior	7	31.8
Senior	9	40.9

The following section addresses the survey questions related to measuring the variable cross-cultural competence in NMSU3's first class. Appendix A includes the complete survey, and the questions related to this section were listed earlier in this chapter when I presented the results from NMSU1's class.

Universalism-particularism dimension. The questions referenced in this case are:

1. You are riding in a car driven by a close friend, and he hits a pedestrian. You know he was going at least 45 mph in an area of the city where the maximum is 30 mph. His lawyer says that if you testify under oath that his speed was only 30 mph, it may save your friend from serious consequences. There are no other witnesses.

What right does your friend have to expect you to protect him?

2. You are a journalist who writes a weekly review on newly opened restaurants. A close friend of yours has sunk all his savings into a new restaurant. You have eaten there and you really think the restaurant is no good.

What right does your friend have to expect you to go easy on his restaurant in your review?

Table 4.45: NMSU3's (first class) students' response to question 1

Answer	Frequency	Percent
Option a	0	0
Option b	9	40.9
Option c	13	59.1

Table 4.46: NMSU3's (first class) students' response to question 2

Answer	Frequency	Percent
Option a	3	13.6
Option b	9	40.9
Option c	10	45.5

Individualism-communitarism dimension. The questions referenced in this case

are:

9. You are working in a team, and a defect caused by negligence of a member of the team is discovered in one of your projects. The responsibility could be carried by the individual alone, or by the team as a whole. Who do you think should carry the responsibility?

10. Which description do you think applies better to an organization in which people work best?

11. In your opinion, which way of working is most effective?

Table 4.47: NMSU3's (first class) students' response to question 9

Answer	Frequency	Percent
Option a	4	18.2
Option b	18	81.8

Table 4.48: NMSU3's (first class) students' answers to question 10

Answer	Frequency	Percent
Option a	6	27.3
Option b	16	72.7

Table 4.49: NMSU3's (first class) students' answers to question 11

Answer	Frequency	Percent
Option a	5	22.7
Option b	17	77.3

Neutral-affective dimension. The questions referenced in this case are:

12 and 13. Which of the following four types of people do you prefer to have around you?

15. There are two extreme ways to consider an organization. Which of these two ways better represent the way you perceive the essence of an organization?

22. In cases where I feel upset at work, I am inclined to express it.

Table 4.50: NMSU3's (first class) students' answers to question 12

Answer	Frequency	Percent
Option a	3	13.6
Option b	2	9.1
Option c	15	68.2
Option d	2	9.1

Table 4.51: NMSU3's (first class) students' answers to question 13

Answer	Frequency	Percent
Option a	5	22.7
Option b	5	22.7
Option c	7	31.8
Option d	5	22.7

Table 4.52: NMSU3's (first class) students' answers to question 15

Answer	Frequency	Percent
Option a	8	36.4
Option b	14	63.6

Table 4.53: NMSU3's (first class) students' answers to question 22

Answer	Frequency	Percent
Strongly agree	5	22.7
Agree	4	18.2
Undecided	0	0
Disagree	6	27.3
Strongly disagree	7	31.8

Achieved status-ascribed status dimension. The questions referenced in this case are:

14. A teacher asks a student to help him paint his house. The student discusses the issue with a classmate. Which of the two arguments would you support the most?

18. The respect a person gets is highly dependent on the family from which he comes.

19. Men and women are different. Therefore, they should be treated differently.

20. It is important for a manager/supervisor be older than most of his subordinates.

21. Older people should be respected more than younger people.

Table 4.54: NMSU3's (first class) students' answers to question 14

Answer	Frequency	Percent
Option a	19	86.4
Option b	3	13.6

Table 4.55: NMSU3's (first class) students' answers to question 18

Answer	Frequency	Percent
Strongly agree	0	0
Agree	4	18.2
Undecided	1	4.5
Disagree	7	31.8
Strongly disagree	10	45.5

Table 4.56: NMSU3's (first class) students' answers to question 19

Answer	Frequency	Percent
Strongly agree	5	22.7
Agree	4	18.2
Undecided	0	0
Disagree	6	27.3
Strongly disagree	7	31.8

Table 4.57: NMSU3's (first class) students' answers to question 20

Answer	Frequency	Percent
Strongly agree	1	4.5
Agree	3	13.6
Undecided	5	22.7
Disagree	6	27.3
Strongly disagree	7	31.8

Table 4.58: NMSU3's (first class) students' answers to question 21

Answer	Frequency	Percent
Strongly agree	3	13.6
Agree	10	45.5
Undecided	1	4.5
Disagree	5	22.7
Strongly disagree	3	13.6

Specificity-diffusion dimension. The questions referenced in this case are:

16 and 17. Of the following two statements, which do you believe to be more in line with your reality?

Table 4.59 NMSU3's (first class) students' answers to question 16

Answer	Frequency	Percent
Option a	8	36.4
Option b	14	63.6

Table 4.60: NMSU3's (first class) students' answers to question 17

Answer	Frequency	Percent
Option a	7	31.8
Option b	15	68.2

Focus group. NMSU3's students started the session asking if the survey had any "bogus questions." They complained about the closed-scenario situations in which they were forced to select one "absolute option" in the questions. Appendix A includes the version of the survey that I used in the study.

The students also mentioned that the multicultural population of NMSU was not a factor in their college choice, but they complained about the "conservative" ideas of the town.

All the international students in NMSU3's first class were completely silent during the session. I asked a question directly to a student from Saudi Arabia about his experience with previous English classes, and he only replied that they were more about content than format.

Section 2

Survey results. NMSU3's second section had 21 students (11 male and 10 female) the day I worked with it. Table 4.61 shows the age distribution in that class.

Table 4.61: Students' age in NMSU3's second class

Age	Frequency	Percent
Under 20	7	33.3
20-24	11	52.4
25-30	3	14.3

From those 21 students, 85.7% were born in the USA, but 47.6% of the class was Hispanic, as Tables 4.62 and 4.63 show.

Table 4.62: Students' nationality in NMSU3's second class

Nationality	Frequency	Percent
Mexico	2	9.5
Spain	1	4.8
USA	18	85.7

Table 4.63: Students' ethnicity in NMSU3's second class

Ethnicity	Frequency	Percent
Arabic	1	4.8
Asian	1	4.8
Hispanic	10	47.6
Native American	2	9.5
Mixed	1	4.8
White	6	28.6

Table 4.64 shows the students ordered by classification in NMSU3's second class.

Regarding their majors, engineering was also dominant in this case, with 57.1% of the students.

Table 4.64: Students' classification in NMSU3's second class

Classification	Frequency	Percent
Sophomore	7	33.3
Junior	9	42.9
Senior	5	23.8

The following section addresses the survey questions related to measuring the variable cross-cultural competence in NMSU3's second class. Appendix A includes the

complete survey, and the questions related to this section were listed earlier in this chapter when I presented the results from NMSU1's class.

Universalism-particularism dimension. The questions referenced in this case are:

1. You are riding in a car driven by a close friend, and he hits a pedestrian. You know he was going at least 45 mph in an area of the city where the maximum is 30 mph. His lawyer says that if you testify under oath that his speed was only 30 mph, it may save your friend from serious consequences. There are no other witnesses.

What right does your friend have to expect you to protect him?

2. You are a journalist who writes a weekly review on newly opened restaurants. A close friend of yours has sunk all his savings into a new restaurant. You have eaten there and you really think the restaurant is no good.

What right does your friend have to expect you to go easy on his restaurant in your review?

Table 4.65: NMSU3's (second class) students' response to question 1

Answer	Frequency	Percent
Option a	1	4.8
Option b	9	42.9
Option c	11	52.4

Table 4.66: NMSU3's (second class) students' response to question 2

Answer	Frequency	Percent
Option a	4	19.0
Option b	9	42.9
Option c	8	38.1

Individualism-communitarism dimension. The questions referenced in this case are:

9. You are working in a team, and a defect caused by negligence of a member of the team is discovered in one of your projects. The responsibility could be carried by the individual alone, or by the team as a whole. Who do you think should carry the responsibility?

10. Which description do you think applies better to an organization in which people work best?

11. In your opinion, which way of working is most effective?

Table 4.67: NMSU3's (second class) students' response to question 9

Answer	Frequency	Percent
Option a	5	23.8
Option b	16	76.2

Table 4.68: NMSU3's (second class) students' answers to question 10

Answer	Frequency	Percent
Option a	13	61.9
Option b	8	38.1

Table 4.69: NMSU3's (second class) students' answers to question 11

Answer	Frequency	Percent
Option a	6	28.6
Option b	13	61.9
No answer	2	9.5

Neutral-affective dimension. The questions referenced in this case are:

12 and 13. Which of the following four types of people do you prefer to have around you?

15. There are two extreme ways to consider an organization. Which of these two ways better represent the way you perceive the essence of an organization?

22. In cases where I feel upset at work, I am inclined to express it.

Table 4.70: NMSU3's (second class) students' answers to question 12

Answer	Frequency	Percent
Option a	7	33.3
Option b	4	19.0
Option c	6	28.6
Option d	3	14.3
No answer	1	4.8

Table 4.71: NMSU3's (second class) students' answers to question 13

Answer	Frequency	Percent
Option a	6	28.6
Option b	4	19.0
Option c	7	33.3
Option d	3	14.3
No answer	1	4.8

Table 4.72: NMSU3's (second class) students' answers to question 15

Answer	Frequency	Percent
Option a	7	33.3
Option b	14	66.7

Table 4.73: NMSU3's (second class) students' answers to question 22

Answer	Frequency	Percent
Strongly agree	1	4.8
Agree	5	23.8
Undecided	1	4.8
Disagree	10	47.6
Strongly disagree	4	19.0

Achieved status-ascribed status dimension. The questions referenced in this case are:

14. A teacher asks a student to help him paint his house. The student discusses the issue with a classmate. Which of the two arguments would you support the most?
18. The respect a person gets is highly dependent on the family from which he comes.
19. Men and women are different. Therefore, they should be treated differently.

20. It is important for a manager/supervisor be older than most of his subordinates.

21. Older people should be respected more than younger people.

Table 4.74: NMSU3's (second class) students' answers to question 14

Answer	Frequency	Percent
Option a	16	76.2
Option b	4	19.0
No answer	1	4.8

Table 4.75: NMSU3's (second class) students' answers to question 18

Answer	Frequency	Percent
Strongly agree	1	4.8
Agree	5	23.8
Undecided	1	4.8
Disagree	10	47.6
Strongly disagree	4	19.0

Table 4.76: NMSU3's (second class) students' answers to question 19

Answer	Frequency	Percent
Strongly agree	1	4.8
Agree	4	19.0
Undecided	4	19.0
Disagree	10	47.6
Strongly disagree	2	9.5

Table 4.77: NMSU3's (second class) students' answers to question 20

Answer	Frequency	Percent
Strongly agree	1	4.8
Agree	3	14.3
Undecided	0	0
Disagree	13	61.9
Strongly disagree	4	19.0

Table 4.78: NMSU3's (second class) students' answers to question 21

Answer	Frequency	Percent
Strongly agree	4	19.0
Agree	8	38.1
Undecided	1	4.8
Disagree	6	28.6
Strongly disagree	2	9.5

Specificity-diffusion dimension. The questions referenced in this case are:

16 and 17. Of the following two statements, which do you believe to be more in line with your reality?

Table 4.79 NMSU3's (second class) students' answers to question 16

Answer	Frequency	Percent
Option a	14	66.7
Option b	7	33.3

Table 4.80: NMSU3's (second class) students' answers to question 17

Answer	Frequency	Percent
Option a	6	28.6
Option b	15	71.4

Focus group. During the session conducted with this class, a Hispanic male student said that the multicultural population of NMSU was a decisive factor in his choice for college education. The student transferred from UTEP because “there was no cultural diversity at all. I never thought I had friends from India, and we are very close now. I am driving here, but I think it’s worth it. UTEP is closer, but I’d rather do it here. In UTEP everybody looks the same... Mexican.”

A white American female student mentioned that previous English courses “didn’t prepare me at all for this one. My previous classes were all about reading, and no grammar, no structure at all. In my whole high school career I wrote one paper, and it was in a French class.”

A Hispanic female student added that “in placement classes, it was all about literature, and not any practice for the type of papers you are supposed to write in college. This class is about practical skills, and you are not supposed to ‘flower it up,’ and in other classes you have to in order to get the A.”

Another white American female student said “I don’t think any other classes focus on a reader-centered approach, but I did learn about thinking of the reader’s expectations.”

Sample documents. I collected a total of 16 student papers from NMSU3's class —1 proposal, 3 reports, and 12 instructions. The proposals and reports were collaborative projects, while the instructions were individual. I photocopied these documents as I received them from the instructor or the students (by email), and I could not divide them into sections. As a result, I treated all the documents collected from NMSU3's classes as if they were all coming from the same section.

In order to evaluate these documents, I created grading rubrics (Appendix C) based on checklists taken from the official textbook assigned by the instructor (Anderson). I gave these rubrics to my group of graders and asked them to evaluate the effectiveness of the documents as technical papers without thinking about the nationality or ethnicity of the authors.

The grades assigned to these papers are reported in Table 4.81.

Table 4.81: Assessment of documents produced in NMSU3's classes

Document	Grader 1	Grader 2	Difference	Grader 3	Final
Instructions: "Installing RedHat Linux 6.0."	78	84	-6		81
Instructions: "Baking Pueblo Indian Oven Bread in an Horno (Traditional Oven)."	81	80	1		80.5
Instructions: "Sweet Cream Cheese Gateau."	91	88	3		89.5
Instructions: "Branding a Calf."	78	79	-1		78.5
Instructions: "Capsicum Disease Manual."	84	88	-4		86
Instructions: "Replacing Brake Pads in BMW Roadster 2001."	79	87	-8	75	75

Table 4.81. Continued

Document	Grader 1	Grader 2	Difference	Grader 3	Final
Instructions: "Installing VAIO Digital Studio Computer."	87	0	87	0	0
Instructions: "How to Draw Blood."	83	87	-4		85
Instructions: "Gain Stages for Bipolar Junction Transistor."	75	70	5		72.5
Instructions: "Digital Multimeter."	82	65	17	70	70
Instructions: "Preventive Maintenance (sic) of the M16A2 Service Rifle."	78	78	0		78
Instructions: "How to Change the Oil on a 1986 Ford Mustang GT, 5.0-Liter Engine."	79	83	-4		81
Proposal: "Conversion of the Bright Chrome Plating Line."	20	50	-30	50	50
Report: Untitled Progress Report	65	75	-10	68	68
Report: "Cryptography."	73	75	-2		74
Report: "Dull Chrome Electroplating Line."	73	80	-7		76.5

The average for the reports collected from NMSU3's classes was 75.25, and the average for the instructions was 73.08. Without the outlier document "Installing VAIO Digital Studio Computer," the average for NMSU3's instructions was 79.72. In Chapter V, I will address this document and the reason why it received a zero as its final grade. The overall average grade for documents from these classes was 71.59 (76.36 without the VAIO instructions).

Total Results for New Mexico State University

Interview. In this section, instead of creating a new macro-vignette compiling narratives from the three interviews conducted at NMSU, I decided to create a data display classifying the answers by concept (horizontally) and instructor (vertically). I modeled my display after the conceptually clustered matrix that Miles and Huberman propose as a way to “bring together items that ‘belong together’” (127). Table 4.82 shows the conceptually clustered matrix for the interviews I conducted with instructors at New Mexico State University.

Table 4.82: Conceptually clustered matrix from instructors' interviews at NMSU

Instructor	Personal approach to the class	Multicultural content of the class	Intervention in cultural balance of workgroups
NMSU1	Emphasis on multicultural, gender, environmental, and political issues in technical communication	Instructor's packet of external readings includes at least one article on multicultural technical communication.	"I don't really move them, all I can do is suggest that they should get to know each other, but I don't force them."
NMSU2	Service-learning in technical communication. Emphasis in workplace models instead of academic examples.	The official textbook includes some multicultural content. Instructor also talks about multiculturalism when discussing audience.	"In the past, I tried to balance the ethnic and cultural representation of students in the teams. Now, the teams form organically around related interests."
NMSU3	Marketplace of ideas. The students propose topics for analysis and then select the most popular ideas.	The official textbook includes some multicultural content. The instructor also includes examples from his/her professional experience as a technical writer.	The groups are formed based on common interests sparked by the marketplace of ideas.

Survey results. The total number of students surveyed in New Mexico State University was 74 (45 male and 29 female). Table 4.83 shows the distribution of students according to instructor/case studied.

Table 4.83: NMSU students classified by instructor/case

Instructor/Section	Frequency	Percent
NMSU1	18	24.3

NMSU2	13	17.6
NMSU3(1)	22	29.7
NMSU3(2)	21	28.4

Table 4.84: NMSU students classified by age

Age	Frequency	Percent
Under 20	19	25.7
20-24	38	51.4
25-29	7	9.5
Above 30	10	13.5

Table 4.85: NMSU students classified by nationality

Nationality	Frequency	Percent
Cuba	1	1.4
Hong Kong	1	1.4
Mexico	3	4.1
Philippines	1	1.4
Saudi Arabia	2	2.7
Spain	1	1.4
Taiwan	1	1.4
Thailand	1	1.4
USA	63	85.1

Table 4.86: NMSU students classified by ethnicity

Ethnicity	Frequency	Percent
Arabic	3	4.1
Asian	5	6.8
Hispanic	26	35.1
Native American	3	4.1
Mixed	4	5.5
White	33	44.6

The following section addresses the survey questions related to measuring the variable cross-cultural competence in all the cases studied in New Mexico State University.

Universalism-particularism dimension. The questions referenced in this case are:

1. You are riding in a car driven by a close friend, and he hits a pedestrian. You know he was going at least 45 mph in an area of the city where the maximum is 30 mph. His lawyer says that if you testify under oath that his speed was only 30 mph, it may save your friend from serious consequences. There are no other witnesses.

What right does your friend have to expect you to protect him?

2. You are a journalist who writes a weekly review on newly opened restaurants. A close friend of yours has sunk all his savings into a new restaurant. You have eaten there and you really think the restaurant is no good.

What right does your friend have to expect you to go easy on his restaurant in your review?

Table 4.87: NMSU students' response to question 1

Answer	Frequency	Percent
Option a	1	1.4
Option b	29	39.2
Option c	44	59.5

Table 4.88: NMSU students' response to question 2

Answer	Frequency	Percent
Option a	9	12.2
Option b	38	51.4
Option c	27	36.5

Individualism-communitarism dimension. The questions referenced in this case are:

9. You are working in a team, and a defect caused by negligence of a member of the team is discovered in one of your projects. The responsibility could be carried by the individual alone, or by the team as a whole. Who do you think should carry the responsibility?

10. Which description do you think applies better to an organization in which people work best?

11. In your opinion, which way of working is most effective?

Table 4.89: NMSU students' response to question 9

Answer	Frequency	Percent
Option a	13	17.6
Option b	61	82.4

Table 4.90: NMSU students' answers to question 10

Answer	Frequency	Percent
Option a	37	50.0
Option b	37	50.0

Table 4.91: NMSU students' answers to question 11

Answer	Frequency	Percent
Option a	14	18.9
Option b	58	78.4
No answer	2	2.7

Neutral-affective dimension. The questions referenced in this case are:

12 and 13. Which of the following four types of people do you prefer to have around you?

15. There are two extreme ways to consider an organization. Which of these two ways better represent the way you perceive the essence of an organization?

22. In cases where I feel upset at work, I am inclined to express it.

Table 4.92: NMSU students' answers to question 12

Answer	Frequency	Percent
Option a	17	23.0
Option b	17	23.0
Option c	33	44.6
Option d	6	8.1
No answer	1	1.4

Table 4.93: NMSU students' answers to question 13

Answer	Frequency	Percent
Option a	18	24.3
Option b	15	20.3
Option c	27	36.5
Option d	13	17.6
No answer	1	1.4

Table 4.94: NMSU students' answers to question 15

Answer	Frequency	Percent
Option a	26	35.1
Option b	48	64.9

Table 4.95: NMSU students' answers to question 22

Answer	Frequency	Percent
Strongly agree	8	10.8
Agree	32	43.2
Undecided	12	16.2
Disagree	19	25.7
Strongly disagree	3	4.1

Achieved status-ascribed status dimension. The questions referenced in this case are:

14. A teacher asks a student to help him paint his house. The student discusses the issue with a classmate. Which of the two arguments would you support the most?
18. The respect a person gets is highly dependent on the family from which he comes.
19. Men and women are different. Therefore, they should be treated differently.

20. It is important for a manager/supervisor be older than most of his subordinates.

21. Older people should be respected more than younger people.

Table 4.96: NMSU students' answers to question 14

Answer	Frequency	Percent
Option a	60	81.1
Option b	13	17.6
No answer	1	1.4

Table 4.97: NMSU students' answers to question 18

Answer	Frequency	Percent
Strongly agree	1	1.4
Agree	16	21.6
Undecided	4	5.4
Disagree	34	45.9
Strongly disagree	19	25.7

Table 4.98: NMSU students' answers to question 19

Answer	Frequency	Percent
Strongly agree	7	9.5
Agree	15	20.3
Undecided	7	9.5
Disagree	25	33.8
Strongly disagree	20	27.0

Table 4.99: NMSU students' answers to question 20

Answer	Frequency	Percent
Strongly agree	2	2.7
Agree	8	10.8
Undecided	10	13.5
Disagree	34	45.9
Strongly disagree	20	27.0

Table 4.100: NMSU students' answers to question 21

Answer	Frequency	Percent
Strongly agree	9	12.2
Agree	28	37.8
Undecided	7	9.5
Disagree	19	25.7
Strongly disagree	11	14.9

Specificity-diffusion dimension. The questions referenced in this case are:

16 and 17. Of the following two statements, which do you believe to be more in line with your reality?

Table 4.101 NMSU students' answers to question 16

Answer	Frequency	Percent
Option a	40	54.1
Option b	34	45.9

Table 4.102: NMSU students' answers to question 17

Answer	Frequency	Percent
Option a	18	24.3
Option b	56	75.7

Focus groups. Just as I did with the interviews, I decided to report the four focus groups held at NMSU in a conceptually clustered matrix. Horizontally, Table 4.103 shows the common topics mentioned during the sessions, and vertically it shows the opinions of the few students, classified by instructor/section, who offered answers during the focus groups.

Sample documents. The average grade for all the documents obtained from classes at New Mexico State University was 76.23 (79.28 without including the document that received a zero as its final grade). Chapter V includes my analysis and interpretation of the grades assigned to the sample papers collected during the research process.

Table 4.103: Conceptually clustered matrix of focus groups held at NMSU

Students	Comments on the cross-cultural competence survey	Influence of multicultural population in decision to attend NMSU	Problems related to multicultural issues in technical writing course	Relevance of previous English classes for technical writing course
NMSU1	No comments	Students never thought about it when they decided to attend NMSU.	The only cultural differences experienced in college happen with instructors whose first language is not English, and that was not the case in their technical writing course.	Previous English courses in college and high school were mostly based on writing essays and personal documents. Technical writing is a “positive learning experience” preparing international students to present their ideas to coworkers.
NMSU2	Personal opinion could have a big impact in the answers to the survey. Family values could also be important. “Culture starts in the family.”	“It just happened. I lived here. I lived close to this place.” “For my field in linguistics, this multicultural balance is good.” UTEP has no diversity.	“The understanding of papers depends on the instructor. It doesn’t really matter what your cultural background is. As long as your instructor is competent, it shouldn’t be much of a difference.”	Regardless of previous experience with English courses, “we are all learning something. Our teacher has prepared us well, and we can solve those problems regardless of the level.”

Table 4.103. Continued.

Students	Comments on the cross-cultural competence survey	Influence of multicultural population in decision to attend NMSU	Problems related to multicultural issues in technical writing course	Relevance of previous English classes for technical writing course
NMSU3(1)	Students complained about the closed-scenario situations in which they were forced to select one “absolute option” in the questions.	The multicultural population of NMSU was not a factor in their college choice, but they complained about the “conservative” ideas of the town of Las Cruces.	No comments.	Previous English courses were more about content than format.
NMSU3(2)	No comments.	One student from El Paso picked NMSU because in UTEP “there was no cultural diversity at all. I never thought I had friends from India, and we are very close now. In UTEP everybody looks the same... Mexican.”	No comments.	English courses “didn’t prepare me at all for this one. My previous classes were all about reading, and no grammar, no structure at all. In my whole high school career I wrote one paper, and it was in a French class.”

UTEP1

Interview. The following is a vignette based on the interview I conducted with UTEP1:

I teach the introductory course to technical writing at UTEP, and we do have several people who are staffed and also teach this course. They have Ph.D.'s and they don't want to leave the university, and they become full-time staff. They are open to do what they want to do, and I am not even sure what other people are doing in this class. My approach is project-based, and more away from the textbook. My wife is from Spain, and I live in both languages with my family. For me, it could be a personal thing, but I think I am more social in Spanish, and that is more congruent with the collaborative projects my students develop in class.

My syllabus for this course is always under revision. Right now, we are using the technology to create different features, and the projects are very challenging. Each time I teach this class, the students are building more and more complex projects. The projects revolve around old Erector sets. I have been getting pieces from collectors, and grants, and I am buying some on eBay. I see them more than as simple toys. To me, they are a force to pull people together. In the classroom, the Erector sets represent collaboration, and through them the students share experiences.

In order to keep the team work professional, they design contracts, and they even include consequences and penalties for missing a meeting, like buying a meal. If you

blow off your partners, you are saying that your time is more important. We have copies of the contract, and that keeps the familiar, spousal fighting from happening in the teams.

The teams have a time frame, and besides their writing they also work with technology. They have to create a logo in Photoshop for their team or company. It will be the company's face. And the team has to put an entry online about goals for the week, and each Friday they assess what was accomplished. They are making their business cards with their logo, and their envelopes; they are creating a company spirit with the technology in every possible way. I want to see what I can actually push them to do in this matter.

The semester-long team project holds them together. In one of my previous classes, my students created a project with the Erector sets and produced a manual about it and placed a copy on the web. A company contacted them thinking it was a real project! In a lot of ways, the class centers around making a company designing something that is real. They learn at a mechanical level, and then they know how to explain it.

We also write other technical documents, including individual letters and reports in correct format, in English and Spanish depending on the class. They submit individual business cards, but the reports are made as a team. The final project is a website marketing their project. They also make a collaborative brochure. In the past I had them do more parts, including a manual showing how to operate their final product. They would write instructions in a how-to section of the final project.

This semester, the bilingual technical writing class is making the website in English and Spanish. The bilingual class does more, but the students get a better exposure to the writing and translation processes. In the English class, at this point I don't mention multicultural issues. I think I only do it when talking about getting to know and understand the audience.

Regarding the balance of ethnic groups in the teams, I let the students select their own group members. It's not a science; it's more of an art. Some are stronger in English and weaker in Spanish and they get together and learn more about expressions and vocabulary.

They have to build something with the Erector sets and 90% of them do very well. The final grade is mainly based on collaboration. When they come to the class for the first time, my students have dysfunctional ideas about teams. I tell them that you are not getting in teams to be best buddies. You are going to be professional. In the group, I will do my work and be inspirational as well. Each member can destroy each other. I want them to feel confused, because that's when they are learning. We never go super fast, but they are always learning. Does it always work? No, but it generally does. They have to divide their tasks and work. It's a demanding class. It's fun and they get a lot out of it, but it's demanding.

Generally, Mexican students work very hard. Sometimes they have problems, but they know that they have to let me know in advance. If you contact me before, I am your best friend, but if you don't tell me, I will be very sorry. I can regroup people at the beginning of the class, but once the projects are going, it is very difficult to make changes.

I think the Mexican students value the education and work very hard. They have good attitudes. They might be lower in skills, but they make up for it in motivation.

Section 1 (Bilingual)

Survey results. The day I visited the bilingual technical writing class taught by UTEP1, there were 16 students (5 male and 11 female) in the classroom. Table 4.104 shows the age of the students in this group.

Table 4.104: Students' age in UTEP1's bilingual class

Age	Frequency	Percent
20-24	12	75.0
25-30	2	12.5
Above 30	2	12.5

Table 4.105 shows that more than half of the students in this class were Mexican nationals, and 93.8% of the students selected Hispanic as their ethnicity. The only exception was one student who selected Mixed, but specified that she was Hispanic-Native American.

Table 4.105: Students' nationality in UTEP1's bilingual class

Nationality	Frequency	Percent
Mexico	9	56.3
USA	7	43.8

This class did not have any freshman students, and only one class members was a sophomore. Table 4.106 reports that most of the students were seniors or juniors.

Regarding their majors, microbiology and kinesiology were the most frequent (with 25% and 18.8% of the students, respectively). Other fields represented were biology, psychology and general science.

Table 4.106: Students' classification in UTEP1's bilingual class

Classification	Frequency	Percent
Sophomore	1	6.3
Junior	8	50.0
Senior	7	43.8

The following section addresses the survey questions related to measuring the variable cross-cultural competence in UTEP1's bilingual class. Appendix A includes the complete survey, and the questions related to this section were listed earlier in this chapter when I presented the results from NMSU1's class.

Universalism-particularism dimension. The questions referenced in this case are:

1. You are riding in a car driven by a close friend, and he hits a pedestrian. You know he was going at least 45 mph in an area of the city where the maximum is 30 mph. His lawyer says that if you testify under oath that his speed was only 30 mph, it may save your friend from serious consequences. There are no other witnesses.

What right does your friend have to expect you to protect him?

2. You are a journalist who writes a weekly review on newly opened restaurants. A close friend of yours has sunk all his savings into a new restaurant. You have eaten there and you really think the restaurant is no good.

What right does your friend have to expect you to go easy on his restaurant in your review?

Table 4.107: UTEP1's (bilingual class) students' response to question 1

Answer	Frequency	Percent
Option a	2	12.5
Option b	4	25.0
Option c	10	62.5

Table 4.108: UTEP1's (bilingual class) students' response to question 2

Answer	Frequency	Percent
Option a	1	6.3
Option b	10	62.5
Option c	5	31.3

Individualism-communitarism dimension. The questions referenced in this case are:

9. You are working in a team, and a defect caused by negligence of a member of the team is discovered in one of your projects. The responsibility could be carried by the individual alone, or by the team as a whole. Who do you think should carry the responsibility?

10. Which description do you think applies better to an organization in which people work best?

11. In your opinion, which way of working is most effective?

Table 4.109: UTEP1's (bilingual class) students' response to question 9

Answer	Frequency	Percent
Option a	4	25.0
Option b	12	75.0

Table 4.110: UTEP1's (bilingual class) students' answers to question 10

Answer	Frequency	Percent
Option a	10	62.5
Option b	6	37.5

Table 4.111: UTEP1's (bilingual class) students' answers to question 11

Answer	Frequency	Percent
Option a	2	12.5
Option b	14	87.5

Neutral-affective dimension. The questions referenced in this case are:

12 and 13. Which of the following four types of people do you prefer to have around you?

15. There are two extreme ways to consider an organization. Which of these two ways better represent the way you perceive the essence of an organization?

22. In cases where I feel upset at work, I am inclined to express it.

Table 4.112: UTEP1's (bilingual class) students' answers to question 12

Answer	Frequency	Percent
Option a	6	37.5
Option b	4	25.0
Option c	4	25.0
Option d	2	12.5

Table 4.113: UTEP1's (bilingual class) students' answers to question 13

Answer	Frequency	Percent
Option a	2	12.5
Option b	6	37.5
Option c	1	6.3
Option d	5	31.3
No answer	2	12.5

Table 4.114: UTEP1's (bilingual class) students' answers to question 15

Answer	Frequency	Percent
Option a	6	37.5
Option b	10	62.5

Table 4.115: UTEP1's (bilingual class) students' answers to question 22

Answer	Frequency	Percent
Strongly agree	2	12.5
Agree	5	31.3
Undecided	1	6.3
Disagree	7	43.8
Strongly disagree	1	6.3

Achieved status-ascribed status dimension. The questions referenced in this case

are:

14. A teacher asks a student to help him paint his house. The student discusses the issue with a classmate. Which of the two arguments would you support the most?

18. The respect a person gets is highly dependent on the family from which he comes.

19. Men and women are different. Therefore, they should be treated differently.

20. It is important for a manager/supervisor be older than most of his subordinates.

21. Older people should be respected more than younger people.

Table 4.116: UTEP1's (bilingual class) students' answers to question 14

Answer	Frequency	Percent
Option a	10	62.5
Option b	6	37.5

Table 4.117: UTEP1's (bilingual class) students' answers to question 18

Answer	Frequency	Percent
Strongly agree	2	12.5
Agree	3	18.8
Undecided	0	0
Disagree	5	31.3
Strongly disagree	6	37.5

Table 4.118: UTEP1's (bilingual class) students' answers to question 19

Answer	Frequency	Percent
Strongly agree	0	0
Agree	1	6.3
Undecided	1	6.3
Disagree	5	31.3
Strongly disagree	9	56.3

Table 4.119: UTEP1's (bilingual class) students' answers to question 20

Answer	Frequency	Percent
Strongly agree	0	0
Agree	2	12.5
Undecided	1	6.3
Disagree	8	50.0
Strongly disagree	5	31.3

Table 4.120: UTEP1's (bilingual class) students' answers to question 21

Answer	Frequency	Percent
Strongly agree	2	12.5
Agree	3	18.8
Undecided	0	0
Disagree	7	43.8
Strongly disagree	4	25.0

Specificity-diffusion dimension. The questions referenced in this case are:

16 and 17. Of the following two statements, which do you believe to be more in line with your reality?

Table 4.121 UTEP1's (bilingual class) students' answers to question 16

Answer	Frequency	Percent
Option a	6	37.5
Option b	10	62.5

Table 4.122: UTEP1's (bilingual class) students' answers to question 17

Answer	Frequency	Percent
Option a	1	6.3
Option b	15	93.8

Sample documents and online journals. At the end of the Fall 2003 semester, I gained access to the websites created as final term papers by UTEP1's students. All the websites were collaborative projects, and the bilingual class created a total of five websites. In order to evaluate these projects, I borrowed the checklist for creating effective websites (Appendix D) included in the textbook used by this instructor (Lannon) and gave it to my group of graders. UTEP1's bilingual class originally had four teams, but in January 2004 UTEP moved some web content in its servers and, as a result, one of the websites created for students in this class lost its functionality and became useless. Table 4.123 shows the three remaining documents produced in UTEP1's first class and the grades they received.

Table 4.123: Assessment of documents produced in UTEP1's bilingual class

Document	Grader 1	Grader 2	Difference	Grader 3	Final
Report/Website: "DIMMS Corporation."	90	93	-3		91.5
Report/Website: "Blue Hills."	85	75	10	62	62
Report/Website: "Trendy AKBAR Corporation."	75	70	5		72.5

The average grade for the reports produced in UTEP1's bilingual class was 75.33.

I mentioned in Chapter III that I made some changes to the case study protocol after the NMSU branch of my research. Hence, when I studied the courses taught at NMSU, my methodology did not include the focus groups anymore. In the four classes I studied in NMSU, it turned out be very difficult to have the students participate actively in a focus group discussion. When I visited UTEP, instead of the focus groups I obtained access to journals that the students were submitting on an online application developed by their instructor. I established in Chapter I that my main concern for the dissertation was to evaluate the nonimmigrant students' ability to represent and interpret the fundamentals of technical communication as it is taught in the United States of America. The personal reflection of the students in those online journals looked like a good source of information to address that concern. I decided that looking at the online journals could assist me in answering the following of my research questions:

Q1: Which factors affect the nonimmigrant Mexican students' ability to learn how to produce and consume technical documents written in English? In the journals, I looked

for statements about what the students were really learning in their technical communication class.

Q3: What additional characteristics do native English-speaking students possess compared to their nonimmigrant Mexican classmates for obtaining higher grades in the technical communication service course? For UTEP1's bilingual class, I randomly selected three students and analyzed their journal entries. Given that all the students in the bilingual class were Hispanic (with 9 Mexican and 7 Mexican-American), the three subjects selected in this course were obviously Hispanic.

I assigned codenames to the students in the following way: UTEPbs1 (UTEP bilingual student 1) is a female Mexican-American female student, UTEPbs2 is a male Mexican student, and UTEPbs3 is a female Mexican student. I created vignettes of each student based on their journal entries related to two main criteria: 1) reflections on the course content and things learned, and 2) reflections on previous writing courses or experiences. I did not correct the students' spelling and grammar in the vignettes with the intention of presenting an honest portrait of their writing styles. For the entries submitted in Spanish, I include translations in parentheses, and I did correct the spelling and grammar in the translation because trying to find equivalents for the typos and errors would have been a pointless experiment.

UTEPbs1. "Creating the final was not as easy to overcome and finish. We use the following programs to create the final: Adobe Photoshop 6.0, Power Point, Front Page, and definitely the internet. What I would recommend the future students who enroll in

this class is to be prepared to face many technology obstacles which they have to overcome. I wish I send to clean out my computer when I finished this class.”

“While surfing in the web we get to go to multiple websites which are very unique... Visuals help the sites look more attractive and get the readers’ attention. The navigation is also important in most of the web site they help the audience to easily go with the presentation flow. When working on the website we have to consider all the important features to apply to ours. (Our final project’s) Web page has to be both in English and Spanish. I always prefer to write in English and later translate the information because I am more fluent as well. Design is important because it will also be appealing to the audience’s eye. If the design is great it will highly reflect the company.”

“The various projects we have done in this class have highly challenged me throughout the class so far. I noticed that I have totally emerged and focused greatly in this class. The projects so far have helped me to use several programs to facilitate our group presentation. It will come in handy for the future. I have also learned to have patience for this class and technology.”

“Visual rhetoric is important to the evolution and presentation of the project by providing a big picture of how you view the final overlook of such project. Therefore, we can see and visualize the success of the product to make it attractive to the consumer. I guess visual rhetoric is how our group can visualize the end product and feed our ideas to make the project come alive. How the illustration or visualization has manifested into the groups minds, ideas, and creation; strive to described and represent our company and project. Visual plays a very important role for any presentation of a company it clings and

target the eye. It gives the rise to the concept; a sort of expression which is representative of the company. If a picture means a thousand words meaning it gives it a personal accent. So our visual is another way to persuade our message by manipulating the visual perception which might influence judgments or delight the viewer. Visual rhetoric can be considered a language to enhance an insight or consider an aesthetic experience.”

“Esta semana fue muy productiva como todas las otras. Mis companeras son muy agradables para trabajar. Me gusta trabajar con ellas porque siempre estan disponible. Tambien son comprensivas con mi horario. Les agradezco la pacencia que nos temos ha que ya estemos un poco estresadas y fastidiadas de hacer los proyectos por horas consecutivas. Para el Lunes yo no pudie juntarme con Maribel y Vanessa porque el horario de el trabajo. Este proceso es muy laboradoso y se toma mucho tiempo para encontrar las cosas. El jueves Maribel y Vanessa me ensenaron los proceso y me justaron mucho los efectos que encontraron para la pagina.”

(This week, like the previous weeks, was very productive. My team mates are very nice to work with. I like to work with them because they are always available. They are also very understanding about my schedule. I thank them for the patience that we have for one another because we are already stressed and fed up working on the projects for several consecutive hours. On Monday I couldn't meet with Maribel and Vanessa because of my job schedule. This process is very labor-intensive and it takes too long to find things. On Thursday Maribel and Vanessa showed me the process and I liked a lot the effects they found for the page.)

“For this week we have learned to do proper resumes, recommended by Dr.Scenters-Zapico and Joe Stat. I am accustomed to working on resumes using Microsoft format. This resume appears to be easier but it is not. Due to the one page limit, it is harder to express yourself in one page resume. I found the criticisms about my resume useful before submitting my resume to Dr. Zapico for an actual grade. These criticisms are constructive because it helped me to improve the content of my resume. The criticisms also help me on noticing some mistakes that I fail to acknowledge. These criticisms and suggestions can also be the common qualities employers are looking for. These lectures for resumes are going to be very helpful when I graduate and in search of employment. Hopefully, I will improve my resume and make it marketable and presentable to actually utilize when searching for employment. I hope that these lectures about resumes will also help every classmate and utilize it as a lifetime tool.”

“Today we had our workshop for front page. It was helpful for me because I have never worked on this program. It is not too hard. At first we did encounter some problems because our server folders were not functioning.”

“My experiences in collaborating in the workplace and school have been both positive and negative. For school many classes ask to make groups to work on major projects for the class. As stated above not all the experiences in working as groups have been successful. For example, last semester in my physiology class I had a student who would dictate how the project would result. Student was not too open to the opinions of the group. The student had a friend and even the friend was always afraid of that particular student of not agreeing. That friend would constantly ask if it seem correct or

approval to that student. The group members and I would suggest some ideas but later that person would do it their way. Therefore, the group would constantly try to make that person to accept the groups' ideas as well."

"I have read a couple of memos but they do not follow step by step guidelines in the correct format of a memo. I have had progress reports reflecting my work, but they too have not been set in this professional format. I have only method I have encountered most is recording the minutes of meetings. I once had to take the minutes of the meeting and later turned in to the director to type and provide to all employees. I did not know at that point to what was the format, but I did summarize of the important points that were discussed."

UTEPbs2. "Some of the things that I would like on the web page are some specila effects, like words poping up or flying across the screen, and also nice and bright pictures and also add some details about the product, and also be creative and create some thing original or use key words to attracked the right audience so that the product can sell it self."

"The workshop for todday was extremly confusing, because the guy was going to fast and as usual the computers were not able to finish the program. On top of that I dont think we accomplished anything today, it was very frustrating not being able to understand what was going on, the workshop today did not help at all. I hope we are going to be able to complete this task and sdo a pretty goog job."

"(For the final project) I contributed by taking the pictures of the product, and also revising the brochure. I took many pictures of the prototype, different angles but we

decided to put only 2 or 3 pictures. This project is very challenging because we have deal with a lot of technology and do many task at the same time, and is also difficult working with a group, because we cannot always meet at the same time and is also difficult to share all the same ideas. As far as challenges we meet one every day, either with the camera or with ideas on how to make the prototype work is an every day task and struggle.”

“Now that I have seen other resume I think that I can make my self more marketable if I put more key words in my resume like more independent, organized, efficient, multitask.”

“Mi experiencia trobajando con adobe fue muy buena, esta facil hacer cosas como estas en la computadora no pense que iba a estar tan facil. Me gusto mucho el programa y la clase que tubimos hoy, si aprendi mucho y con practica espero hacerlo mejor, yo se que esto me ba ayudar en muchas clases mas como en presentaciones y reportes que tengo que hacer en otras clases. Tambien aprendi como copiar la foto con el scanner, y casi es la misma cosa.”

(My experience working with Adobe was very good. It is easy to make things like this on the computer. I did not think it was going to be that easy. I really liked the program and the class we had today. I did learn a lot and with practice I hope to make it better, and I know this will help me in many classes and in presentations and reports I will do for those classes. I also learned how to copy the picture with the scanner, and it is almost the same thing.)

“An example of a bad experience that I had with collaboration was at my work place, and specially with the management team, they are the ones that want team work and dont practice it. They all have a different prespective in doing things and thats o.k. but they need to get together and agree in how things are going to be done. That will make it clear for everybody. A good experience that I had with collaboration was in the other job I had, I was a waiter and at teh food bussiness you have to be a team player and collaborate witheaxh other if not you will never get anything done”.

UTEPbs3. “Algunos de los obstaculos que hemos superado haciendo el poyecto final es el de reunirnos por cuatro o cinco horas diarias ajustandose al horario de mis otra cuatro companeras. A parte de eso superamos algunos problemas tecnicos con los diferentes programas y computadoras. La sugerencia que les puedo dar a los futuros estudiantes de esta clase es que traten de contar con una computadarora propia que tenga todos los programas instalados y actulizados Utilizados en esta clese tales como Photshop, FrontPage, ect.”

(Some of the obstacles we had to overcome while doing the final project were to get together for four or five hours daily, adapting to the schedules of my other four teammates. Besides that we overcame some technical problems with the different programs and computers. The suggestion I have for future students in this class is to try to have your own computer with all the software installed and updated. For this class we used Photoshop, FrontPage, etc.)

“The brochure was finally done. I was very pleased about how the final copy came out. All the girls contribute in one way or another in the creation giving opinions,

suggestions, and comments about where to place the pictures, and information. The main focus of the brochure was to present the product as safe equipment for the children. So personally I suggest writing information about the seatbelts and how fast the machine was. With this information the parents can be aware of all the possible situations that their children may encounter.”

“We have some ideas for the brochures, but we are unsure about the written information that we have to put. We are very clear with the desing, the front cover must include a picture of the product, and the Heading of nice font.”

“So far the only challenges that I have to face for this class help me to learn my abilities an weakness og how to face difficulties and to learn new ways to overcome the problems. The first challenge was the used of new technology that personally I have never use like Photoshop and the other program to create the business cards. But once I get the explanation of how to use it everything has been working just fine. Another challenge was what product to make for the company and how to make it work. Once we decided what product to make we started putting the pieces together that was another challenge it is not easy to figure out how the pieces will support the motor and still be movable parts. By trial and error we finally put all the pieces together and have the prototype to present.”

“Para ser sincera no puedo decir que aprendi mucho en el workshop de Photoshop. Debido al tiempo solo pudinos ver las cosas mas elementales de trabajar con ese programa. Tales como poner texto, moverlo y guardarlo. Espero que en el workshop del

viernes se profundise mas en como importar dibujos o fotografias de sitios en internet y de otros files disponibles.”

(To be honest, I can't say I learned a lot at the Photoshop workshop. Because of the time, we could only see the most essential features for working with this program. Such as inserting text, moving it, and saving it. I hope Friday's workshop goes deeper into how to import pictures from websites and other available files.)

“Summary of qualities for being a good collaborator, based on my own experiences and comments of others a good group collaborator must have the following qualities: Responsible The member must attend to meetings, do the work, brings the material and ideas to each meeting session. Reliable The person must be organized, and must be fully commitment to the project. Respectful The member must respect others person ideas, give their opinion in a nice way avoiding to hurt other people's feelings, based on culture, gender, or religion. A parte de las cualidades mencionaadas tambien tiene que ser desinibido, y con una buena autoestima y de mente abierta; en pocas palabras tiene que ser un estuche de monerias para poder ser miebro de un equipo. Yo creo que muchas de las cualidades antes mencionadas tienen que estar presentes en la organizacion de cualquier equipo y si todos los miembros siguen al pie de la letra todas las instrucciones no habra ningun problema. (Besides the qualities I mentioned, the member also has to be uninhibited, and with good self-esteem and an open-mind; in other words, the member has to be a bag of tricks in order to belong to a team. I think many of the qualities mentioned before have to be present in the organization of any team, and if all the members follow all the instructions word by word, there won't be any problem.)”

“Personally I don’t have much experience writing memos or progress reports. I just have written progress notes of personal projects, but not with that much detail or correct format. I am more familiar with memorandums some of my employers send information about meetings or activities of the institution.”

Chapter V includes my detailed analysis and interpretation of the students’ journals obtained from my visit to UTEP.

Section 2 (English only)

Survey results. When I worked with UTEP1’s English-only class, there were 21 students (7 male and 14 female) in the classroom. Table 4.124 displays the age of the students in this section.

Table 4.124: Students’ age in UTEP1’s English-only class

Age	Frequency	Percent
Under 20	2	9.5
20-24	13	61.9
25-30	3	14.3
Above 30	3	14.3

In this section, 95.2% of the students were born in the USA, with the exception of one Mexican student. However, 76.2% of the students were Hispanic, as Table 4.125 shows.

Table 4.125: Students' ethnicity in UTEP1's English-only class

Ethnicity	Frequency	Percent
Hispanic	16	76.2
Mixed	1	4.8
White	4	19.0

Biology, health sciences, and physical therapy were the dominant majors, covering 52.4% of the students. Additionally, Table 4.126 displays the answers to the question about classification in college.

Table 4.126: Students' classification in UTEP1's English-only class

Classification	Frequency	Percent
Freshman	1	4.8
Sophomore	6	28.6
Junior	7	33.3
Senior	7	33.3

The following section addresses the survey questions related to measuring the variable cross-cultural competence in UTEP1's English-only class. Appendix A includes the complete survey, and the questions related to this section were listed earlier in this chapter when I presented the results from NMSU1's class.

Universalism-particularism dimension. The questions referenced in this case are:

1. You are riding in a car driven by a close friend, and he hits a pedestrian. You know he was going at least 45 mph in an area of the city where the maximum is 30 mph. His lawyer says that if you testify under oath that his speed was only 30 mph, it may save your friend from serious consequences. There are no other witnesses.

What right does your friend have to expect you to protect him?

2. You are a journalist who writes a weekly review on newly opened restaurants. A close friend of yours has sunk all his savings into a new restaurant. You have eaten there and you really think the restaurant is no good.

What right does your friend have to expect you to go easy on his restaurant in your review?

Table 4.127: UTEP1's (English-only class) students' response to question 1

Answer	Frequency	Percent
Option a	5	23.8
Option b	8	38.1
Option c	8	38.1

Table 4.128: UTEP1's (English-only class) students' response to question 2

Answer	Frequency	Percent
Option a	5	23.8
Option b	9	42.9
Option c	7	33.3

Individualism-communitarism dimension. The questions referenced in this case

are:

9. You are working in a team, and a defect caused by negligence of a member of the team is discovered in one of your projects. The responsibility could be carried by the individual alone, or by the team as a whole. Who do you think should carry the responsibility?

10. Which description do you think applies better to an organization in which people work best?

11. In your opinion, which way of working is most effective?

Table 4.129: UTEP1's (English-only class) students' response to question 9

Answer	Frequency	Percent
Option a	7	33.3
Option b	14	66.7

Table 4.130: UTEP1's (English-only class) students' answers to question 10

Answer	Frequency	Percent
Option a	11	52.4
Option b	10	47.6

Table 4.131: UTEP1's (English-only class) students' answers to question 11

Answer	Frequency	Percent
Option a	7	33.3
Option b	14	66.7

Neutral-affective dimension. The questions referenced in this case are:

12 and 13. Which of the following four types of people do you prefer to have around you?

15. There are two extreme ways to consider an organization. Which of these two ways better represent the way you perceive the essence of an organization?

22. In cases where I feel upset at work, I am inclined to express it.

Table 4.132: UTEP1's (English-only class) students' answers to question 12

Answer	Frequency	Percent
Option a	8	38.1
Option b	5	23.8
Option c	7	33.3
Option d	1	4.8

Table 4.133: UTEP1's (English-only class) students' answers to question 13

Answer	Frequency	Percent
Option a	2	9.5
Option b	6	28.6
Option c	11	52.4
Option d	2	9.5

Table 4.134: UTEP1's (English-only class) students' answers to question 15

Answer	Frequency	Percent
Option a	7	33.3
Option b	14	66.7

Table 4.135: UTEP1's (English-only class) students' answers to question 22

Answer	Frequency	Percent
Strongly agree	3	14.3
Agree	6	28.6
Undecided	4	19.0
Disagree	5	23.8
Strongly disagree	3	14.3

Achieved status-ascribed status dimension. The questions referenced in this case are:

14. A teacher asks a student to help him paint his house. The student discusses the issue with a classmate. Which of the two arguments would you support the most?

18. The respect a person gets is highly dependent on the family from which he comes.

19. Men and women are different. Therefore, they should be treated differently.

20. It is important for a manager/supervisor be older than most of his subordinates.

21. Older people should be respected more than younger people.

Table 4.136: UTEP1's (English-only class) students' answers to question 14

Answer	Frequency	Percent
Option a	16	76.2
Option b	5	23.8

Table 4.137: UTEP1's (English-only class) students' answers to question 18

Answer	Frequency	Percent
Strongly agree	2	9.5
Agree	2	9.5
Undecided	1	4.8
Disagree	9	42.9
Strongly disagree	7	33.3

Table 4.138: UTEP1's (English-only class) students' answers to question 19

Answer	Frequency	Percent
Strongly agree	0	0
Agree	5	23.8
Undecided	3	14.3
Disagree	5	23.8
Strongly disagree	8	38.1

Table 4.139: UTEP1's (English-only class) students' answers to question 20

Answer	Frequency	Percent
Strongly agree	0	0
Agree	2	9.5
Undecided	1	4.8
Disagree	10	47.6
Strongly disagree	8	38.1

Table 4.140: UTEP1's (English-only class) students' answers to question 21

Answer	Frequency	Percent
Strongly agree	3	14.3
Agree	6	28.6
Undecided	2	9.5
Disagree	8	38.1
Strongly disagree	2	9.5

Specificity-diffusion dimension. The questions referenced in this case are:

16 and 17. Of the following two statements, which do you believe to be more in line with your reality?

Table 4.141 UTEP1's (English-only class) students' answers to question 16

Answer	Frequency	Percent
Option a	11	52.4
Option b	10	47.6

Table 4.142: UTEP1's (English-only class) students' answers to question 17

Answer	Frequency	Percent
Option a	3	14.3
Option b	18	85.7

Sample documents and online journals. The students in UTEP1's English-only class were grouped in six teams for creating the website/report as their final term paper. Because of the server migration that I mentioned when I talked about the websites created for UTEP1's bilingual class, one website in the English-only class also lost its

functionality and became useless. Table 4.143 shows the grades for the remaining five websites produced in this class.

Table 4.143: Assessment of documents produced in UTEP1's English-only class

Document	Grader 1	Grader 2	Difference	Grader 3	Final
Report/Website: "Eco-Sun."	87	92	-5		89.5
Report/Website: "Capital Miner."	89	82	7		85.5
Report/Website: "SOZU."	80	75	5		77.5
Report/Website: "Jetson Co."	80	85	-5		82.5
Report/Website: "LVL Productions."	79	80	-1		79.5

The average grade for the websites obtained from UTEP1's English-only class was 82.9. Regarding the online journals, I assigned codenames to the three randomly selected students from this section in the following way: UTEPeos1 (UTEP English-Only Student 1) is a female Mexican-American student, UTEPeos2 is a male white American student, and UTEPeos3 is a female Mexican-American student. These are the vignettes I created based on their journal entries:

UTEPeos1. "I can't really say specifically what I contributed to my company's brochure because when we started working on it, we were all brain storming on what we thought we should have in it and how we should organize all our information. I couldn't really tell anyone if I wrote a specific sentence or if I arranged a certain section this way. It was all of us putting all our ideas together, trying to create an effective brochure. The

qualities that I find effective in the brochures is showing a brief amount of information that is to the point along with some eye catching images. If you just put one image on the front of the brochure, and then a bunch of paragraphs on the inside, it ruins the brochure because then it's just boring. Who wants to look at a bunch of paragraphs? I don't, to me it feels like I have to read them, almost like I'm reading for a class, so that's a major no. I think that when we finally do our brochures, then we will definitely include some colorful images and make ours brief and to the point-which is what I liked about some of the brochures I looked at.”

“The only project or task that has challenged me is the fact that I don't know how to work with the erector set that well, and neither does anyone in my group. We're a bunch of girls, and even though that shouldn't have anything to do with it, we've never worked with anything like this before. Ask me to make you something from legos and I could do it easy, but the erector design isn't as easy. After you figure out how to put things together, then you get to figure out how to wire the motor to get that to work. We haven't gotten to the motor yet, but I am not looking forward to it, because I'm not good with wiring. Other than that I think I've had an easy time figuring everything else out.”

“The only time I ever used a memo was in my business computer class in high school and that was just copying information and putting the info. in memo style. Other than that I have never used memo's or progress reports before.”

UTEPeos2. “I noticed that (on a sample website) for web design they stress keeping it simple, and not to get too technical with information and pictures. On our website we are doing just that, keeping it simple, yet informative. We will be including plenty of visuals, but simple and direct ones. We believe that the product will sell itself, we just need to give the basics and some extra visuals for flare. our website will stack up just because our product is interesting, but it will be user friendly with cool graphics.”

“Our brochure will cater to the middle age adults (let 30's to 50's) that have a taste for the exotic, expensive vehicles. This product will be pricey, so the audience will be older and with some money. The brochure will have great graphics and a lot about capabilities and performance.”

“I feel that my knowledge of technology is increasing, therefore, I feel I can be better prepared to assist the group with projects. The workshops are helpful for this project and getting more time in publisher and photoshop also helps. The business cards, envelopes and letterhead came out well. I feel they are pleasing to the eye without being too overstimulating. This is important in business, especially for new clients.”

“I have gained my experiences working with other people from all backgrounds in the Army. It is a skill that takes time to get confidence with. I have always preferred the participative approach to leadership. I do not usually try to do everything myself (maybe in an emergency) I have found that there is always someone in a group that has a good idea. Pulling together and having patience can really pay off to reach the group's goals. There was an exercise that 4 soldiers and I had to accomplish before we could move on to a different training site in Ft Benning GA. It required us to navigate across 3,000 meters

of forrest at night and with possible ambushes awaiting us. This alone was difficult, but 20 minutes into the training, one of us breaks his ankle. So, without really knowing these guys that well, we had to take turns reading a map (at night), cover eachother from attack, and take turns carrying and dragging the guy with the hurt ankle. Alot of Team work and motivation had to be maintained to make it. As it turns out, we all made it alive and we found out after many hours of silent yelling at eachother, that our group leader told that guy (Rob) to fake his injury. We got him later for playing the part to well!"

"In the Army you learn fast because if a memo is written incorrectly, or not proof-read, operations can shut down, request for equipment, supplies can be lost, or an approval for the use of a conference room would really make the Commander upset if he showed up and no one else was there. Similarly, progress reports are important and must be written properly because big decisions can and are made based on progress reports. Mostly the types of progress reports I did were an evaluation of training and how effective it was. When a progress report is completed properly, it can be an essential tool for an evaluator, or a supervisor in gauging the capabilities of the staff to determine if the training is working."

UTEPeos3. "I believe my group had few obstacles. In other words, it never felt like we were stuck or couldn't get something done. For the final, it seemed to all fall in place. Whenever we had ideas, for some reason, they were good and no one fussed. We would say 'YEAH, that's cool' and add it on. I would say if anything, the technology would be the obstacle. We never really knew how to work some of the website, but once the group got the hang of it, it got better and our ideas really came out. Since the

technology and learning of new programs was the hardest part, I think the advice I would give to your incoming students would be to be prepared to dedicate time and effort into your class. It may seem like a blow off class because there are no essays or anything to turn in but the dedication and time is just as hard. Also, working together as a team is hard so, as we studied so diligently at the beginning, they will have to be good collaborators and cooperators if they want the job done.”

“This recent workshop on Frontpage was VERY confusing. I have NO idea what I am doing or how to do it. I feel that my group and I will be spending quite a deal of time in the ATLAS learning more. I did understand the basics of the webpage but getting colors, motions, pictures, and icons for everything is just a blur. I don't get it. It was WAY too much technology for me to handle and that was just in one training session. You are right, I'm freaked out of my mind and shaking in my boots. What if we do this wrong? What if the icons don't go where they should? WHAT IF....!!!????? I can already feel the dark circles forming. I was very challenged by this part. I need to learn more about everything in this program. However, if we do get it together the ideas I would like to incorporate would be to have like a bullseye center to grasp attention, show shooting paintball guns, have several icons that lead to everything from the contract to contacting information. I would like to have all angle pictures of the prototype and real-life examples as well.”

“I want our brochure to be interesting, colorful, appealing to the eye, and informative, but only to a point that they will want more. The audience will read it and be grasped and want to check out the site or call for more information. I want it to have

pictures that send out a clear idea of what we are trying to sell. I want the brochure to be fun. The audience for this brochure is supposed to be directed to everyone, meaning males and females, since our vehicle can be customized. However, due to the sport, I think our main audience would be males of driving age to about 50 years or so, young group. That is why the brochure must be appealing in many aspects.”

“I work in an insurance office. I am the assistant to the commercial lines department head. There are requirements and demands coming in on an hourly basis. So, I write memos every 5 minutes. I create, read, and respond to memos as soon as I get into work. Every paper that leaves the office MUST have a memo, even if the information attached is bluntly obvious as to what it is. However, I do note that everyone's memos that come through the fax or mail are the same as the book states. It is imperative that it shows the sender, reciever, subject, and have a header. Progress reports are not very big in the office, but I am very familiar with such clerical items.”

Total Results for the University of Texas at El Paso

Survey results. The total number of students surveyed at the University of Texas at El Paso was 37 (12 male and 25 female). Table 4.144 shows the distribution of students according to class/case studied.

Table 4.144: UTEP students classified by class/case

Section	Frequency	Percent
UTEP1(1)	16	43.2
UTEP1(2)	21	56.8

Table 4.145: UTEP students classified by age

Age	Frequency	Percent
Under 20	2	5.4
20-24	25	67.6
25-30	5	13.5
Above 30	5	13.5

Table 4.146: UTEP students classified by nationality

Nationality	Frequency	Percent
Mexico	10	27.0
USA	27	73.0

Table 4.147: UTEP students classified by ethnicity

Ethnicity	Frequency	Percent
Hispanic	31	83.8
Mixed	2	5.4
White	4	10.8

The following section addresses the survey questions related to measuring the variable cross-cultural competence in all the cases studied in the University of Texas at El Paso.

Universalism-particularism dimension. The questions referenced in this case are:

1. You are riding in a car driven by a close friend, and he hits a pedestrian. You know he was going at least 45 mph in an area of the city where the maximum is 30 mph. His lawyer says that if you testify under oath that his speed was only 30 mph, it may save your friend from serious consequences. There are no other witnesses.

What right does your friend have to expect you to protect him?

2. You are a journalist who writes a weekly review on newly opened restaurants. A close friend of yours has sunk all his savings into a new restaurant. You have eaten there and you really think the restaurant is no good.

What right does your friend have to expect you to go easy on his restaurant in your review?

Table 4.148: UTEP students' response to question 1

Answer	Frequency	Percent
Option a	7	18.9
Option b	12	32.4
Option c	18	48.6

Table 4.149: UTEP students' response to question 2

Answer	Frequency	Percent
Option a	6	16.2
Option b	19	51.4
Option c	12	32.4

Individualism-communitarism dimension. The questions referenced in this case

are:

9. You are working in a team, and a defect caused by negligence of a member of the team is discovered in one of your projects. The responsibility could be carried by the individual alone, or by the team as a whole. Who do you think should carry the responsibility?

10. Which description do you think applies better to an organization in which people work best?

11. In your opinion, which way of working is most effective?

Table 4.150: UTEP students' response to question 9

Answer	Frequency	Percent
Option a	11	29.7
Option b	26	70.3

Table 4.151: UTEP students' answers to question 10

Answer	Frequency	Percent
Option a	21	56.8
Option b	16	43.2

Table 4.152: UTEP students' answers to question 11

Answer	Frequency	Percent
Option a	9	24.3
Option b	28	75.7

Neutral-affective dimension. The questions referenced in this case are:

12 and 13. Which of the following four types of people do you prefer to have around you?

15. There are two extreme ways to consider an organization. Which of these two ways better represent the way you perceive the essence of an organization?

22. In cases where I feel upset at work, I am inclined to express it.

Table 4.153: UTEP students' answers to question 12

Answer	Frequency	Percent
Option a	14	37.8
Option b	9	24.3
Option c	11	29.7
Option d	3	8.1

Table 4.154: UTEP students' answers to question 13

Answer	Frequency	Percent
Option a	4	10.8
Option b	12	32.4
Option c	12	32.4
Option d	7	18.9
No answer	2	5.4

Table 4.155: UTEP students' answers to question 15

Answer	Frequency	Percent
Option a	13	35.1
Option b	24	64.9

Table 4.156: UTEP students' answers to question 22

Answer	Frequency	Percent
Strongly agree	5	13.5
Agree	11	29.7
Undecided	5	13.5
Disagree	12	32.4
Strongly disagree	4	10.8

Achieved status-ascribed status dimension. The questions referenced in this case are:

14. A teacher asks a student to help him paint his house. The student discusses the issue with a classmate. Which of the two arguments would you support the most?

18. The respect a person gets is highly dependent on the family from which he comes.

19. Men and women are different. Therefore, they should be treated differently.

20. It is important for a manager/supervisor be older than most of his subordinates.

21. Older people should be respected more than younger people.

Table 4.157: UTEP students' answers to question 14

Answer	Frequency	Percent
Option a	26	70.3
Option b	11	29.7

Table 4.158: UTEP students' answers to question 18

Answer	Frequency	Percent
Strongly agree	4	10.8
Agree	5	13.5
Undecided	1	2.7
Disagree	14	37.8
Strongly disagree	13	35.1

Table 4.159: UTEP students' answers to question 19

Answer	Frequency	Percent
Strongly agree	0	0
Agree	6	16.2
Undecided	4	10.8
Disagree	10	27.0
Strongly disagree	17	45.9

Table 4.160: UTEP students' answers to question 20

Answer	Frequency	Percent
Strongly agree	0	0
Agree	4	10.8
Undecided	2	5.4
Disagree	18	48.6
Strongly disagree	13	35.1

Table 4.161: UTEP students' answers to question 21

Answer	Frequency	Percent
Strongly agree	5	13.5
Agree	9	24.3
Undecided	2	5.4
Disagree	15	40.5
Strongly disagree	6	16.2

Specificity-diffusion dimension. The questions referenced in this case are:

16 and 17. Of the following two statements, which do you believe to be more in line with your reality?

Table 4.162: UTEP students' answers to question 16

Answer	Frequency	Percent
Option a	17	45.9
Option b	20	54.1

Table 4.163: UTEP students' answers to question 17

Answer	Frequency	Percent
Option a	4	10.8
Option b	33	89.2

Sample documents and online journals. The average grade for the eight websites obtained from classes at UTEP was 79.11. Chapter V includes my interpretation of the online journals obtained from UTEP1's classes.

Total Results for Both Universities

Interviews. For this section, I brought back Table 4.82, which grouped the answers from the interviews with NMSU instructors. In this new table, 4.164, I added the opinions of UTEP1 to offer a complete snapshot of the results obtained through this measuring tool.

Table 4.164: Conceptually clustered matrix from interviews at NMSU and UTEP

Instructor	Personal approach to the class	Multicultural content of the class	Intervention in cultural balance of workgroups
NMSU1	Emphasis on multicultural, gender, environmental, and political issues in technical communication	Instructor's packet of external readings includes at least one article on multicultural technical communication.	"I don't really move them, all I can do is suggest that they should get to know each other, but I don't force them."
NMSU2	Service-learning in technical communication. Emphasis in workplace models instead of academic examples.	The official textbook includes some multicultural content. Instructor also talks about multiculturalism when discussing audience.	"In the past, I tried to balance the ethnic and cultural representation of students in the teams. Now, the teams form organically around related interests."
NMSU3	Marketplace of ideas. The students propose topics for analysis and then select the most popular ideas.	The official textbook includes some multicultural content. The instructor also includes examples from his/her professional experience as a technical writer.	The groups are formed based on common interests sparked by the marketplace of ideas.
UTEP1	Emphasis on collaborative work. The students work on a semester-long project creating a "company" whose purpose is to market a product.	In the bilingual class, multicultural communication is a common topic. The English class only talks about it in concepts of audience."	"I let the students select their own group members. It's not a science; it's more of an art."

Survey results and sample documents. The total number of students surveyed was 111 (57 male and 54 female). 74% of the students were enrolled in technical writing classes at NMSU, and the rest were taking the course at UTEP. Table 4.165 shows the distribution of students by instructor and section studied.

Table 4.165: Students by instructor and section

Instructor	Frequency	Percent
NMSU1	18	16.2
NMSU2	13	11.7
NMSU3(1)	22	19.8
NMSU3(2)	21	18.9
UTEP1(1)	16	14.4
UTEP1(2)	21	18.9

Of the 111 students in the population, 58 (52.3%) were Hispanic, and 33.3% were white. The multicultural and international student population at NMSU made a small contribution to the sample with 5 Asian, 3 Arabic, and 3 Native American subjects. Table 4.166 displays the countries represented in the total population.

Table 4.166: Students by nationality

Nationality	Frequency	Percent
Cuba	1	0.9
Hong Kong	1	0.9
Mexico	13	11.7
Philippines	1	0.9
Saudi Arabia	2	1.8
Spain	1	0.9
Taiwan	1	0.9
Thailand	1	0.9
USA	90	81.1

More than half of the students were between 20 and 24 years old and, as seen in Table 4.167, most of them were either juniors or seniors, with only 4 freshmen and 1 graduate student.

Table 4.167: Students by classification from UTEP and NMSU

Classification	Frequency	Percent
Freshman	4	3.6
Sophomore	26	23.4
Junior	36	32.4
Senior	44	39.6
Graduate	1	0.9

Even without intense analysis of the data, the differences between the student populations from UTEP and NMSU are evident in this chapter. UTEP is depicted as a mostly Hispanic-dominated bicultural institution, whereas NMSU has a little more international representation and Anglo-based orientation. These substantive differences

make it unnecessary to establish whether the whole population can function harmoniously as a system with a common goal; as a result, I did not calculate cross-case results based on the cross-cultural competence part of the survey, and I did not obtain an average of the grades assigned to all the documents collected in my research.

Conclusion

This chapter reported the results obtained from my case study, which I performed at New Mexico State University and the University of Texas at El Paso during the months of June and July, and October of 2003, respectively. The results were divided by instructor observed, and each section included the findings from each of the methods in my triangulation: interviews, survey, focus groups, and evaluating sample documents.

I reported the results from the interviews with instructor using vignettes (i.e., narratives based on my recorded sessions), and then I created a conceptually clustered matrix compiling all the instructors in the study. For the survey results, I reduced the data using SPSS 12.0 and provided frequencies and percents for each question, relating them to the dimensions of cultural differences in the model by Trompenaars and Hampden-Turner. For the focus groups, I created data displays identifying trends in the students' comments and creating categories for analysis. Finally, for the sample documents, I gathered a team of instructors of introductory technical writing courses at Texas Tech University and gave them the sample papers and rubrics (based on the textbooks used by the instructors studied) to evaluate them. Chapter V includes my detailed analysis and interpretation of the results presented in this chapter.

CHAPTER V

ANALYSIS AND INTERPRETATION OF RESULTS

In the following sections I will analyze the results presented in Chapter IV for the population of instructors and students studied in NMSU and UTEP. Each of the research methods used will have its own heading with my interpretation of the findings obtained through their application.

Interviews

All the instructors interviewed at NMSU stated that they have control over their syllabus for the introductory undergraduate course in technical writing. According to the only instructor interviewed teaching an advanced technical writing course (NMSU2), there are not many differences between that course and the introductory class. Given the type of documents produced in both courses, I treat them as if they were the same in this analysis. Regarding their absolute control over the syllabus, one instructor even created a packet of readings which his/her students were using instead of the official textbook assigned by the NMSU English department. At NMSU, two of the three instructors interviewed added a special interest focus to their syllabi (one of them was interested in teaching about “gender, environmental, multicultural, and political issues in technical communication,” and the other included a component of service-learning), while the third one was teaching a conventional technical writing course based on the official textbook assigned by the English department. At UTEP, the instructor interviewed had the unique approach of teaching technical writing around the concept of creating a model using

Erector sets in a semester-long collaborative project. Hence, I can extract the following facts based on the interviews conducted:

All the instructors interviewed said that their syllabi had some content about multicultural issues in technical communication. However, NMSU1 did not discuss with his/her students the reading assigned on that topic. Before my arrival, the instructor emailed me to say that my intervention was going to be appropriate for the day since they would be discussing an article on multicultural technical communication. After I worked with this class, and still with 15 minutes on the clock, the instructor dismissed the students and never mentioned the reading assigned for the day. Furthermore, from this class I did not receive any sample documents, and as a result I have no way of evaluating if the approach of this instructor (the only one to bring an external reading on the issue to the classroom) was effective.

Two of the three instructors at NMSU related the topic of multiculturalism to the concept of collaboration. They said that the only time they taught about multicultural technical communication was during their class discussions on teamwork and collaboration. Later in this chapter, in the Sample Documents section, I will go back to this subject, since these two instructors also assigned the main documents produced in the class as collaborative projects (with the exception of the instructions created in the classes taught by NMSU3). The exception was UTEP1, whose English-only class only talked about multiculturalism during their introduction to the concept of audience.

The instructors at both universities also mentioned that they do not have an influence on the structure of their students' teams, and that they do not try to balance the

cultural or ethnic representation in those groups. Connecting this to the previous statement, I can infer that multiculturalism (as an area of technical writing) is not a big concern for the instructors interviewed at NMSU. It was, at least on paper, for NMSU1, but the disconnection between the assigned reading and my intervention in the class demonstrated that in practice the topic was not a priority for the syllabus. For UTEP1's bilingual class, the main concern was to deal with the U.S.-Mexico biculturalism of the El Paso area, but that does not translate into a real concern for multicultural issues in technical writing.

By addressing multiculturalism only during their discussions on collaboration and audience, the instructors might be attempting to promote awareness and respect of cultural differences in the teams. However, by not intervening in the formation of those teams in order to maintain the course's diversity, they are not presenting ways to reconcile those differences.

Survey

The purpose of my survey was to measure the variable of cross-cultural competence in each of the cases/classes studied. I established in Chapter I that cross-cultural competence was defined in this dissertation in the same way as Trompenaars and Hampden-Turner do in their studies about cultural differences in business environments. I wanted to determine if the classrooms were harmoniously working as systems of productive individuals with the same purpose despite their level of multiculturalism. Obviously, the survey did not provide absolute results classifying the students in strict

and stereotypical answers depending on their nationality or ethnicity. Instead, the results showed how in very specific dimensions of cultural differences the students had different opinions, generating information that could help the instructor when discussing cultural differences in the classroom. In all the groups, the students agreed in most of the questions included in the survey, with the expected outliers provided by the few students from Asia and Arabia found in NMSU. In this section I will focus on those cases in which the most frequent answer from one class was supported by 50% or less of the students in that section.

Results from NMSU1

The students in this section had significant differences in questions 12, 19, 20 and 21 of the survey (I did not include question 15, in which the two most popular options received 50% and 50% of the results). Those questions are:

12. Which of the following four types of people do you prefer to have around you?

Although the Hispanic students (none of them from Mexico) had some differences in this question, surprisingly, in NMSU1's class the students with more discrepancies in question 12 were white American, as Figure 5.1 shows.

Figure 5.1: NMSU1's students' answer to question 12

19. Men and women are different. Therefore, they should be treated differently.

In this question, the Hispanic students apparently could not agree on one answer, but the white students also had differences. The outlier is the Arabic student, the only one who selected "Strongly disagree," as seen in Figure 5.2.

Figure 5.2: NMSU1's students' answer to question 19

20. It is important for a manager/supervisor be older than most of his subordinates.

In this question, most of the students selected “disagree” or “strongly disagree,” and that is what caused the split in the answers. Hence, I cannot see this is a relevant discrepancy.

21. Older people should be respected more than younger people.

This was an authentic case of cultural differences in the classroom: most of the Hispanic students selected “agree,” while most of the white students selected “disagree” or “strongly disagree” (Figure 5.3), which confirms the Hispanic perspective of senior citizens as important parts of the family instead of being mere financial burdens.

Figure 5.3: NMSU1’s students’ answer to question 21

Results from NMSU2

As expected, with all its students born in the U.S. NMSU2’s class turned out to be the case with less significant differences. The students in this section only had discrepancies in four questions of the survey. Those questions were 12, 13, 21, and 22.

12. Which of the following four types of people do you prefer to have around you?

In this question, the biggest difference was within the Hispanic students (Figure 5.4). It is worth mentioning that in this class nobody selected the option “approved,” which in NMSU1’s class was only chosen by an Asian student. Likewise, in question 13 (Figure 5.5), the main differences were also among the Hispanic students.

Figure 5.4: NMSU2’s students’ answer to question 12

13. Which of the following four types of people do you prefer to have around you?

Figure 5.5: NMSU2’s students’ answer to question 13

21. Older people should be respected more than younger people.

Although most of the Hispanic students selected “agree” on this question, three of them did not share that opinion and, furthermore, one of them selected “strongly disagree.” On the other hand, the white students also had different opinions about this question (Figure 5.6), and there was no real consensus in their answers.

Figure 5.6: NMSU2's students' answer to question 21

22. In cases where I feel upset at work, I am inclined to express it.

This question illustrates the unique situation of the Mexican-American students in NMSU. Mexico is a country commonly described as emotional, whereas the United States is frequently seen as neutral. The Mexican-American students, who have cultural elements of both countries, selected “undecided” as the most frequent response in this question (Figure 5.7) addressing the emotional-neutral dimension of the Trompenaars-Hampden Turner model.

Figure 5.7: NMSU2's students' answer to question 22

Results from NMSU3

NMSU3's classes had very similar differences in the answers to the survey, even though the demographics of the sections taught by this instructor do not look much alike on paper. NMSU3's first class was the most diverse case included in the study, with students representing a total of six countries. The second class only had students from Mexico (2), Spain (1), and the United States (18); however, this class had at least six possible categories in the variable of ethnicity. The first class had differences in the answers to questions 2, 13, 18, 19, 20, 21, and 22. In the second class, the list is identical, except for number 12 instead of number 20.

Regardless of the effect of ethnicity and nationality, the results from NMSU3's classes reflected the same trends seen in the sections taught by NMSU1 and NMSU2: Mexican-American students did not answer following the patterns expected for either Mexican or American subjects. In many occasions, white students did not perform as

expected of American subjects either. Figures 5.8 and 5.9 illustrate that point with the answers provided by NMSU3's classes to question 22.

Figure 5.8: NMSU3(1)'s students' answer to question 22

Figure 5.9: NMSU3(2)'s students' answer to question 22

Results from UTEP

The Hispanic population (Mexican and Mexican-American) at UTEP turned out to be more complex than the Hispanic students in NMSU. In UTEP1's bilingual class, the variable of ethnicity became useless because 100% of the students were Hispanic. As a result, I analyzed this case relying mostly on the variable of nationality, trying to identify patterns distinguishing the nonimmigrant Mexican students from their Mexican-American classmates. Nevertheless, the students responded to the survey in unexpected ways that challenged the theoretical foundations of Trompenaars and Hampden-Turner's model. Furthermore, UTEP1's English-only class was not very different, and the Hispanic students added to that case an element of uncertainty that did not allow any predictions or forecasts about their performance in the survey. The English-only class also was the case with the most discrepancies in the whole study, with eight questions. In the bilingual class, the questions with significant differences were 12, 13, 18, 20, 21, and 22. Those were almost the same for the second class, except for 13 and adding 1, 2, and 19.

The answers showed the same patterns seen in NMSU courses with a high Hispanic population: the answers fall all over the spectrum of possibilities presented by the survey, and the students cannot be stereotyped as either Mexicans or Americans. Figures 5.10 and 5.11 show those trends by analyzing the answers given to questions 12 and 22 (also affected by differences in the NMSU classes) from the students in UTEP1's bilingual class. Notice that for this case only the ruling variable is nationality, instead of ethnicity.

Figure 5.10: UTEP1(1)'s students' answer to question 12

Figure 5.11: UTEP1(1)'s students' answer to question 22

In UTEP1's English-only class, the mostly Mexican-American Hispanic population did not seem to agree on any answer. As a result, almost every question in the survey had significant discrepancies. In this case, even questions 1 and 2, which make reference to the dimension of universalism-particularism in the model by Trompenaars and Hampden-Turner, had differences, as seen in Figures 5.12 and 5.13, respectively.

Figure 5.12: UTEP1(2)'s students' answer to question 1

Figure 5.13: UTEP1(2)'s students' answer to question 2

Focus Groups

All things considered, I have to admit that the focus groups were disappointing. When I designed the study, I expected to derive substantial insights from the sessions and even related this method to all the research questions introduced in Chapter I. However,

in the field things were much different. From my experience as an instructor of undergraduate technical writing, I was expecting certain rejection and silence because I know how difficult it can be to have a lively discussion with undergraduates in a morning class. But the results were worse than I expected. Most of the questions in my focus group guide, especially in the classes taught by NMSU1 and NMSU2, did not get any answers. If I could conduct the focus groups again, I would probably do so in a more casual way, with an incentive like free food or candy/snacks, which in my own classes has proven to be effective as an ice-breaker for discussion. From the results obtained through the focus groups, I offer the following observations:

Most of the students at NMSU did not think about the multicultural nature of the university's student body as a positive or negative factor in their decision to attend this institution. The only cases reported were those in which the students were deliberately looking for diversity, like the student who was getting a degree in linguistics and was looking forward to working with peers from different countries and ethnic groups, or the Hispanic student who would commute everyday from El Paso to Las Cruces to move away from the mostly Mexican and Mexican-American population at UTEP.

The students did not report any problems related to multiculturalism in their technical writing classes. However, as I was analyzing the data I realized that probably the students from minorities or foreign countries were not going to admit their problems in front of their instructor and classmates. My focus groups questions evolved from an original form of personal interview with randomly selected students that I planned in the

earlier stages of the project and discarded. In the following section I will mention how some of students' problems showed up in their documents.

Most of the students at NMSU said that their previous English classes did not prepare them for the type of work performed in a technical writing course, but did give them some foundations for writing in college. Among the topics they mentioned were the concept of writing to address the needs of an audience and writing with a specific purpose. More than any other experience, the students talked about the impact that their high school English classes had in their writing skills and practices. The few foreign students in the NMSU classes (11 of 74) did not talk about their previous English courses and evidently could not identify with the high school stories told by their American classmates.

The high school English stories that silenced some of the students, along with the unexpected anti-Mexican graffiti I found on a restroom wall of the English building at NMSU, confirm the existence of cultural differences in that environment. However, the students probably a) were not aware of them and did not know how to identify them, or b) did not want to talk about them in front of their class.

Sample Documents and Student Journals

Documents from New Mexico State University

I have mentioned before that I did not collect any documents from NMSU1's class, mainly for two reasons. First, the syllabus in that class only included one of the genres or modes I was looking for (the proposal), and second, I asked the students to

voluntarily email me copies of their documents without using the instructor as my mediator, as I did with the other classes in the study. NMSU1 was the only instructor who claimed to include some external readings explicitly on the topic of multiculturalism in technical communication. Unfortunately, I did not get to see any papers produced in that class.

NMSU2's class was a very important case for my research because of the nationality of its students. As I reported in Chapter IV, this was the only class studied in which 100% of the students were born in the United States of America, with approximately half of them being Hispanic and the other half Anglo. All the assignments compiled from this class (proposals and reports) were collaborative projects, and the average grades assigned by my evaluators were significantly high (84.5 for the proposals and 82.8 for the reports). And the grades could have been higher: the evaluators pointed out that the only reason why most of the reports in NMSU2's class did not get better grades was because some of them did not look like standard reports. In Chapter IV I specified that this instructor had a free-format approach for the final assignment, and some of the papers submitted were shaped like brochures, websites, books, and even PowerPoint presentations. The evaluators were expecting more conventional reports with recommendations, and their grades reflected those unfulfilled expectations.

Overall, the documents produced in NMSU2's class did not produce any extreme reactions from the evaluators. One of the few comments I recorded from this grading session was that the proposals were effective, but they had minor design problems (inconsistency in the font used in headings, lack of page numbers, images not directly

related to the text, etc.). However, they did have a good sense of audience and purpose, as Figure 5.14 shows. All of them included a detailed section identifying and describing the agency for which the document was being produced.

Audience/agency identification: “The Alzheimer’s Association is a service agency that seeks to improve the quality of life of individuals, affected with Alzheimer’s disease, and their families. This agency promotes Alzheimer’s disease research. It also provides a variety of local services for Alzheimer’s patients, their families, caregivers and health care professionals.”

Purpose statement: “Team Memory Friends proposes to revise the Dona Ana County Resource Listing Senior Services & Resources. Although this resource listing was updated April 29, 2003, we feel that the document’s efficiency of use would be improved with a few format changes. We also feel that a quick reference fact sheet and information regarding diagnosis and treatment of Alzheimer’s disease would be valuable additions to the information packet.”

Figure 5.14: Audience and purpose in proposal by NMSU2’s students

The students in NMSU2’s class performed as competent authors of efficient technical documents without revealing anything about their ethnic background or nationality. The voices in the documents are generic and are evidently working together in teams in order to accomplish a purpose, properly explained in their proposals and reports.

The evaluators also had problems with the proposals (I received one of them) and progress reports (I also received only one) written for NMSU3's classes. They were expecting more detailed documents, and the actual deliverables only had a few paragraphs. In his interview, NMSU3 explained this when he said that the proposals and progress reports were written as "brief memos." This is the reason why the average assigned by the evaluators for the reports collected from NMSU3's classes was 75.25. Nevertheless, from this instructor's classes I will concentrate the analysis and interpretation on the instructions, which represent the bulk of sample documents received during the study. For the documents produced in NMSU3's classes (with 8 international students from a total of 43 in both sections) was 79.72.

The most frequent comment from the evaluators while grading instructions produced in these sections was that the documents "look ambitious, but are eventually ineffective." Actually, the average size of the instructions compiled from these sections was 4 pages, and even relatively easy topics (like "Sweet Cream Cheese Gateau" and "How to Draw Blood") have lengthy introductions and too many steps. Some interesting cases were:

- "Replacing Brake Pads in BMW Roadster 2001," which was received by one of the evaluators with the comment: "Great, another undergraduate American kid writing about his car." Actually, the student who wrote it was from Saudi Arabia.
- "Baking Pueblo Indian Oven Bread in an Horno (Traditional Oven)," which included very childish but effective illustrations and was the only document that reflected a student's cultural background (Native American in this case).

- “Installing VAIO Digital Studio Computer,” written by a student from Cuba, which received a grade of zero from the evaluators because it was plagiarized from an actual Sony manual. One of the evaluators said about this document: “It looks plagiarized and with a sophomore introduction.” The evaluator was right, and the introduction reads like this: “Welcome. With the purchase of the Sony VAIO Digital Studio computer you have access to (sic) latest audio/video and information technology features. This multimedia computer has also the latest consumer operating system from Microsoft, the (sic) Windows XP Home Edition. Let’s talk about this amazing PC and the VAIO AV applications included with it.”

Looking at the documents, I can say that most of the students in NMSU3’s courses did not understand the concept of audience and purpose as effectively as those from NMSU2’class. One of the final reports obtained from NMSU3 helps to explain this point. “Cryptography” was submitted as a final, collaborative report. However, it looks like an extended version of the instructions assignment. Figure 5.15 shows the document’s introduction (there was no conclusion), in which it is very difficult to identify audience and purpose.

“The idea of cryptography in computers is to encrypt some type of information so that it cannot be read by someone other than the writer and reader intended. This can be used in data transfer, website security, online credit card transactions, and network security. The way that encryption works with software and hardware is that the information to be encrypted goes through a predetermined mathematical equation so that it is turned into large numbers or characters, and appears to be nothing important. When encryption occurs, every character whether it be a letter or a number, is seen as a number by the computer, known as the ASCII code.”

Figure 5.15: Introduction from a report from NMSU3's students

Documents from the University of Texas at El Paso

Grading the websites/reports created in UTEP1's classes was a difficult process. The evaluators, who had been mostly quiet while reviewing the papers obtained from NMSU instructors, emailed me detailed comments and observations about the UTEP1 websites. Throughout those comments there was a general trend regarding how hard it was to classify the websites in one specific genre of technical communication. Grader 1 said, “To me, these examples don't show that the students grasped a ‘website’ as its own genre. A lot of these sites look like they are meant to be read in a sequential order, but that's not how people really use websites. These sites didn't always do very well at ‘promoting’ their respective products. A list of features does not equal ‘promotion’.” Grader 2 added, “It doesn't seem like they all had the kind of focus object described in the assignment. The collaborative contract is a feature in some, not all, and I think

including it makes the site a little off topic. I don't know if including this was a requirement. Was a Spanish version assigned? A few have it."

In UTEP1's original assignment description, the website was not defined as one specific genre. His online syllabus reads, "Overview: This project involves designing your own product, describing it, the processes it took to make it, the collaboration involved, and various documents with visuals." When I interviewed him, he only said that the final project "is a website marketing (the students' collaborative) project."

From UTEP1's bilingual class, only one project received good grades and comments from both evaluators. "DIMMS Corporation" (Figure 5.16) was described by Grader 2 as "an easy to follow website in which everything works. The students made clear choices about readability elements, such as fonts and separation of information, despite a couple of small grammar problems." This website had very clear sections in English and Spanish from the main page, and its descriptions of the product (text and images) and the team behind it are easy to read in both languages.

Figure 5.16: Website for “DIMMS Corporation.”

The other two websites produced in the bilingual class were labeled as confusing and apparently without a purpose. An example from this case would be “Trendy AKBAR Corporation” (Figure 5.17). Its homepage is a black background with many special effects but no content at all. One of the graders pointed out, “From the homepage, I have no idea what these people are marketing. It looks like they got lost in the web trying to find cute animated pics that they could modify and never got the information completed.” The graders, who did not know the documents were produced in a bilingual technical writing class, also noticed that this website did not have a Spanish version (which was required for this section). Grader 2 said, “This would not appeal to a multicultural audience who wanted to spend big money on a heavy equipment mover.”

Figure 5.17: Website for “Trendy AKBAR Corporation.”

The websites created in UTEP1’s English-only classes received better comments, but the graders still could not label the documents as one single genre. They were concerned about the purpose of the websites, which in some cases seemed to be promoting the team who built the project. Regarding one website created for this class, Grader 2 mentioned, “The content is more about the creators and other manufacturers than it is about the product they want to sell.” Grader 1 noticed that in most of the websites created for this class, the authors “often expect pictures to be self-evident. They don’t integrate the pictures with the text.” The “pictures” page from “LVL Productions”

(Figure 5.18) is an example to support that observation: the pictures in that page do not have captions and are not clickable to offer explanations or context.

Figure 5.18: Pictures page from “LVL Productions.”

The online journals obtained from UTEP1’s classes seem to confirm the trends I was observing in the websites: apparently, Mexican and Mexican-American students in UTEP1’s classes did not have a good sense of audience and purpose when writing technical documents. Most of the journals reported problems during the process of creating the website, but those problems were related to either the use of software for building the webpage or the Erector sets. The students were complaining about the difficulties of using applications like FrontPage and Photoshop without previous

experience and only a brief workshop. Also, one team reported that its members did not know how to create an object with the Erector sets.

I did not find in the online journals, however, frequent references to the process of writing the websites' content. And while some of the entries by American students included in Chapter IV identify concepts of audience and purpose, the entries by Mexican students did not mention these terms and were essentially about problems with technology or the process of collaboration, which was the instructor's approach to the class.

Conclusion

This chapter included my analysis and interpretation of the research results. It contained sections for each of the data-gathering methods used. Those methods included interviews conducted with instructors of technical writing at New Mexico State University and the University of Texas at El Paso, focus groups with students from NMSU, a survey to measure the groups' level of cross-cultural competence, evaluation of documents produced by the students, and analysis of online journals.

Regarding the interviews, I found that the instructors (with one exception) only talk about multiculturalism in the technical writing course when discussing topics about collaboration and, occasionally, audience analysis. By doing this, the instructors might be promoting awareness and respect for cultural differences in the classroom, but they are not providing students with ways to reconcile those differences.

The survey analysis showed that most Mexican-American students in the cases studied are undecided in scenarios that reflect their main cultural influences. In NMSU, the presence of Mexican students was almost nonexistent, so that variable did not have any effect in the case. In UTEP, however, the Mexican students add an element of uncertainty to the classroom. Some of them maintain traditional Mexican values (like respect for elders and emotional attitudes), but others have a more American-influenced perspective regarding their performance in the classroom.

By analyzing the results from the focus groups, I realized that very few students in NMSU see the multicultural nature of the school as a relevant factor in their education, and that most of the American students relate their experiences in technical writing to high school English courses, which the foreign students in their classrooms cannot relate to.

Finally, from analyzing sample documents and online journals written by the students, I noticed that many Mexican and Mexican-American writers in the classes studied did not have a good understanding of the concepts of audience and purpose in their papers.

Chapter VI will summarize the dissertation and then offer conclusions, recommendations for the cases studied, and suggestions for further research.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Summary of the Dissertation

This dissertation addresses the importance of understanding and respecting cultural differences in academic environments teaching technical communication. I argue that, regardless of their degree of intensity, all cultural differences must be dealt with in order to create a cross-culturally competent system of individuals working towards a common goal. Specifically, I decided to study the way in which technical communication is being learned in the culture of the U.S.-Mexico border. The population I studied belongs to the cultural group of students (and their instructors) enrolled in the technical communication introductory course at two public universities in American cities close to Mexico.

I conducted my research at the departments of English of New Mexico State University (NMSU) and the University of Texas at El Paso, working with sections of their introductory technical communication course. My research questions were:

1. Which factors affect the nonimmigrant Mexican students' ability to learn how to produce and consume technical documents written in English?
2. How does the high presence of nonimmigrant Mexican students affect, for better or worse, the cross-cultural competence in the technical communication service course in border universities?

3. What additional characteristics do native English-speaking students possess compared to their nonimmigrant Mexican classmates for obtaining higher grades in the technical communication service course?
4. What additional characteristics do high performing Mexican nonimmigrant students possess compared to their low-performing fellow citizens for obtaining higher grades in the technical communication service course?
5. How are the technical communication service course instructors in border universities addressing the diversity in the classroom's audience?

In order to answer these research questions, the methods I used included interviews with instructors in charge of the introductory technical writing course, a survey for students (regardless of their cultural background) based on the dimensions of cultural differences introduced by Trompenaars and Hampden-Turner, focus groups to explore interactions among students in the classroom, assessment of sample documents, and analysis of online journals produced by students in those classes.

I worked with four instructors and 111 students at NMSU and UTEP. At NMSU, I worked during the first summer term of 2003 with one section of English 218 (Technical Writing) and one section of English 318 (Advanced Technical Writing). During the second summer term, I worked with two groups of English 218. I obtained information from 74 students (45 male and 29 female) in NMSU. The remaining 37 students (12 male and 25 female) from my population were from UTEP. At UTEP, I worked with two groups of English 3359 (Technical Writing), during the Fall semester of 2003. Both

sections were taught by the same instructor, with one section being bilingual in English and Spanish.

After conducting the research, I found out the following:

1. At least for the population and setting studied, Mexican students apparently did not write technical documents with a purpose. Their sample papers were mostly concerned about format and presentation, but the content did not address the needs of a specific audience.
2. Most of the courses observed relied on collaborative work, and thus the individual traits were merged (and thus neutralized or diluted) in team personalities that did not reflect any ethnic or national character. The only exceptions were documents written about subjects related to specific cultural items (instructions for baking Native American bread, for example).
3. The decision to address multicultural content in the introductory technical writing course in the classes observed depended exclusively on the instructor and not the program administrators. Likewise, the content of the course (particularly the decision about which genres and modes the students will create) also depends on the instructor. None of the four instructors interviewed tried to balance or distribute the representation of cultural or ethnic groups when making the students work in teams for class projects.

Conclusions of the Study

P1: If their instructor does not address the multicultural nature of the class, nonimmigrant Mexican and Mexican-American students in technical communication courses might not be able to produce effective technical documents.

P2: The high presence of nonimmigrant Mexican students in technical communication classes affects the level of cross-cultural competence in service course classes at border universities

Based on the size of my sample, it would be very ambitious to make general assumptions in this section. However, at least for the cases studied, I found evidence to support Proposition 3 (P3): Native English speaking students produce more effective technical documents than nonimmigrant Mexican students in technical communication courses at border universities. NMSU2's class, the only one with all its students born in the U.S., might have produced only 10 (5 reports and 5 proposals) collaborative reports, and UTEP1's bilingual class, the only one with all of its students identified as Mexican or Mexican-American, only produced 3 functional collaborative websites. However, supported by the content of those documents, the grades they received, the focus groups, and the online journals, I have evidence to support this proposition. And the focus groups provided the key element: high school experiences with English and writing classes.

Beyond cultural differences, previous experiences in English or writing classes can divide the audience in a multicultural technical writing classroom. Most foreign students did not attend American high schools, and they probably take first-year college composition and technical writing at American institutions still thinking about the

grammar-intense English as a Second Language courses they took in their countries in order to learn English. For the specific case of Mexican students, I know by experience that most high school-equivalent writing courses (and even some in college) do not cover the concepts of audience and purpose and are strictly focused on grammar and reading (either models of technical/scientific papers or literary works). For example, at the Escuela Preparatoria Emeritense, accredited by the Universidad Autónoma de Yucatán, in Merida, Mexico Helena Rivero is an instructor of *Lectura y Redacción* (Reading and Redacting). In the first semester of this course, her students go through three main units: linguistic components of a written text, summarizing a text, and bibliographical research. In the second semester, they learn about scientific texts (by looking at examples), and literary works (by writing summaries of books). Needless to say, all the work conducted in this class is in Spanish. In the past, her school also offered a workshop in grammar and redaction, but it is no longer included in the program.

At college level, the situation is not much different. For example, only three of seven academic departments within the Universidad Autónoma de Yucatán have any writing requirements. Most of the instructors and administrators I interviewed at this Mexican university complained about the poor writing skills of the students, but said they did not have plans to include writing courses as a requirement. At the department of Mathematics and Computer Sciences, Alejandro Lara Rodríguez, undergraduate advisor, mentioned that the department holds occasional “skills” workshops, whose topics have included in the past chess, guitar, karate, cooking, and writing.

(The three exceptions were the departments of Civil Engineering, Education, and the Law School. However, the writing courses offered by these units were focused on bibliographic research, citation styles, grammar, and writing with models. They did not have a theoretical component and had no concepts of audience and purpose.)

Obviously, one high school and one university cannot determine the overall academic practices of a country, but such examples do represent a very common approach to writing courses in Mexico. A different perspective, however, can be found at the Instituto Tecnológico y de Estudios Superiores de Monterrey, in Nuevo León, Mexico. This institution, accredited by the Southern Association of Colleges and Schools (SACS), operates under an American-like model. As stated in the website of this university's Humanities Department, its undergraduate Composition ("Redacción Avanzada") course includes elements of audience analysis (*análisis del receptor*) and studies the writing process from a communication/semiotics-based perspective. Most Mexican high schools and universities, however, do not follow this model.

In an American technical writing classroom, if these differences exist with students coming from a country like Mexico, whose cultural differences with the United States can be labeled as mild or subtle, it is logical to assume that they might exist at a higher degree with countries belonging to the strong or evident category of cultural differences.

Answering the Research Questions

Q1: Which factors affect the nonimmigrant Mexican students' ability to learn how to produce and consume technical documents written in English?

The main factor identified in this study was previous experience with English or writing courses. Unlike their American classmates, Mexican students did not have high school experiences about English classes to share. In most Mexican high schools, writing classes mainly look at linguistic components of the Spanish language and make the students learn the format of technical, scientific, and literary documents by reading models. Also, many Mexican students learned English in grammar-intense ESL courses, and might still relate those to their writing process in English.

Q2: How does the high presence of nonimmigrant Mexican students affect, for better or worse, the cross-cultural competence in the technical communication service course in border universities?

In NMSU, the number of Mexican nonimmigrant students was very small (only 3 in the 4 groups studied). Hence, there was no effect to be measured. Nonetheless, in UTEP the Mexican students add an element of uncertainty to the classroom. Some of them maintain traditional Mexican values (like respect for elders and emotional attitudes), but others have a more American-influenced perspective regarding their performance in the classroom. As a general population in the classroom, their performance according to models of cultural differences is unpredictable and hard to measure.

Q3: What additional characteristics do native English-speaking students possess compared to their nonimmigrant Mexican classmates for obtaining higher grades in the technical communication service course?

Comparing sample documents written by American and Mexican students, I found that the main difference in their writing was related to concepts of writing theory. The Mexican students did not have a good sense of writing with a purpose to serve the needs of an audience. Surprisingly, grammar and spelling were not a noticeable difference in the sample documents, and some Mexican students produced documents easier to read than those created by some American classmates. The American students did acquire the foundations for writing with a purpose but had problems understanding the genres of technical writing because their high school English courses did not prepare them for such writing.

Q4: What additional characteristics do high performing Mexican nonimmigrant students possess compared to their low-performing fellow citizens for obtaining higher grades in the technical communication service course?

Due to the collaborative nature of almost all the documents compiled (with the exception of NMSU3's instructions, and his sections only had three Mexican students), I was not able to determine those characteristics. In the online journals, which were not graded, the only differences were of grammar and spelling and of difficulty in adapting to new software.

Q5: How are the technical communication service course instructors in border universities addressing the diversity in the classroom's audience?

The choice to acknowledge the multicultural nature of the classroom turned out to be a personal decision. All the instructors interviewed said they talk about multicultural issues in technical communication at least once during a semester, when they are addressing topics of collaboration or audience analysis. Only one instructor said the main focus of the class was multicultural technical communication (along with gender issues and environmental rhetoric), but the reading assigned on multiculturalism was never discussed in class. However, none of the instructors interviewed sees the diversity in the classroom as a factor that could affect the content of the class. The only exception was UTEP1, who teaches a bilingual class, but all the students in that class were Mexican or Mexican-American, so there was no actual diversity in the classroom.

Recommendations

The introductory course in technical communication is already packed with essential genres and strategies that students, regardless of their ethnic or cultural background, are supposed to learn. Hence, this course might not be the proper place to include a serious concentration on multicultural issues. However, the course content should address the possibility of cultural differences when discussing audience analysis and collaboration. Instead of being an optional feature, multicultural considerations should be a required item in any audience analysis, regardless of the document being

produced. Any technical document could reach a reader from a culture other than the author's.

In order to enhance considerations about multiculturalism, universities could develop an advanced undergraduate course in multicultural technical communication, aimed at students with a major or minor in technical or professional writing. The content of this course would teach the students to plan, develop, and write documents that would be effective for audiences despite cultural differences.

Likewise, program administrators should train instructors teaching the introductory course in technical writing to distinguish between *teaching about multiculturalism* and *teaching to a multicultural audience*. In the cases studied, the instructors had some content to teach about multiculturalism in the audience, but they did not have plans for handling the multicultural nature of their own audience in the classroom. Instructors should be trained to read their audience and decide if the composition of the classroom requires special attention in order to avoid cultural differences among the students. Possible ways of learning to read the instructor's audience in the classroom could include learning about the students' previous experiences in writing or ESL classes.

Instructors need to move beyond creating awareness and promoting respect for cultural differences in the classroom and should introduce ways to reconcile them. One way to achieve that goal would be by incorporating some of the techniques for reconciling cultural differences proposed by Trompenaars and Hampden-Turner, which I presented in Chapter II.

The instructors could present to the class the model of cultural differences based on dimensions and explain that the extremes on those dimensions are not opposite and they complement each other in order to make meaning. These could be useful when creating teams with students of different nationalities and ethnic groups. As a result, their differences could be presented as strengths and they could feel as citizens of the classroom without needing to dilute or neutralize their cultural background. Instructors could also use the team projects in the classroom as practice for workplace situations, explaining to the students that their interaction takes place in a cultural space with specific rules and expectations (i.e., getting a good grade and producing an effective document for the audience). In addition, Trompenaars and Hampden-Turner affirm that the extremes of a dimension of cultural differences can work with one another and create synergy in a process of mutual facilitation. The technical writing instructor can apply this concept to the groups and make the student submit memos or journal entries documenting the process of mutual facilitation in their collaboration.

Optionally, the instructor could apply a shortened version of the cultural dimensions survey I used for this study (Applying the survey, reporting its results, and then interpreting the data were painstaking activities during my research process, and I would not recommend it for instructors of the introductory technical writing course). The sample survey could be narrowed to the questions related to the dimensions of ascribed-achieved status, and emotional-neutral, which in my study turned out to be the ones with higher differences in answers from the students. Another option would be to ignore the survey and just explain a model of cultural differences based on dimensions (the works of

Trompenaars and Hampden Turner, and Hofstede are appropriate examples). However, regardless of the model selected to explain the concept of cultural differences in the technical writing classroom, the key to dealing successfully with a multicultural audience has to be avoiding singling out students because of their nationality or ethnicity, of essentializing such students as unambiguous representatives of their national or ethnic group, and reaffirming to all students that each individual can make a significant contribution to the collaboration process.

Implications for Teaching and Research

Based on the limitations of my study and methods, and also triggered by tendencies detected in its results, I compiled the following ideas for further studies related to this dissertation's topic:

Add cases with instructors in non-bicultural areas. The research could move to other Mexico-U.S. border zones, like California, and Arizona, looking for more diversity in the classroom. Likewise, it could also move within the states of Texas and New Mexico to other universities where Hispanic students have a strong presence but do not dominate the classroom.

Add cases with international students from countries other than Mexico. This would create a richer but also more complex database with different values for ethnicity and nationality. In this case, it would be better to move away from the U.S.-Mexico border and find more cosmopolitan urban zones with a higher degree of diversity in technical writing courses. For such a population, probably including individual interviews

with randomly selected students would work better than the focus group sessions in detecting patterns of error or misunderstanding in the technical writing classroom.

Regardless of the studies that it could produce or inspire, this dissertation contributes to the field of technical communication a new way to look at cultural differences that would normally be considered as subtle and not very important. Although nonimmigrant Mexican students in UTEP and NMSU dress and act as their American classmates, and demonstrate proficiency in the English language by taking standardized tests like SAT or TOEFL, they still have their unique cultural and educational experiences that create differences in their learning processes. If instructors are aware of this problem with students from a culture relatively akin to American culture, they should be experienced and prepared when dealing with cases from more dissimilar cultures.

The dissertation should also make instructors of technical communication think about the differences between teaching about multicultural audiences and teaching to multicultural audiences. As part of their undergraduate requirements in science and engineering degrees, many international students have to take at least one course in technical communication, and instead of being uncomfortable exceptions in the classroom, their experiences can be converted into cases that could enrich the classroom's experience.

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APPENDIX A: INTERCULTURAL AWARENESS PROFILER

This is a questionnaire designed to find out the way in which certain important events in our lives affect different people in different ways. Please complete ALL 22 questions. This questionnaire is an adapted version of the cross-cultural competence survey developed and applied by Fons Trompenaars and Charles Hampden-Turner. I am using it for my research with approval of Dr. Maarten Nijhoff Asser, manager of the Trompenaars Hampden-Turner office in Boston.

It will take you about 10 minutes to work through this questionnaire, which must be completed in one single session. In some cases, you might feel that it is difficult to choose between 2 or 3 possible answers. However, please choose the option that you think is closest to your viewpoint. There are no right or wrong answers to the questions, only your view of the world. You are not being assessed; I just want to analyze the specific culture inside your technical writing classroom.

The authors have chosen to use the masculine form throughout the questionnaire for two reasons. First, they think that by always using 'he/she', 'his/her' and 'him/her', the reading of the questionnaire is more cumbersome, and second, they want to minimize the possibility of gender being a variable that could influence people's answers to the questions.

Section I: Scenarios:

The first three questions consist of three little scenarios that might actually occur in your life. After every story you are asked to select ONE answer from the alternatives given. Again, there are no right or wrong answers. When answering the questions, try not to be influenced by any previous answers you have given.

1/22. You are riding in a car driven by a close friend, and he hits a pedestrian. You know he was going at least 45 mph in an area of the city where the maximum is 30 mph. His lawyer says that if you testify under oath that his speed was only 30 mph, it may save your friend from serious consequences. There are no other witnesses.

What right does your friend have to expect you to protect him?

	As a friend he has a definite right to expect me to testify that he was only going 30 mph.
	As a friend he has some right to expect me to testify that he was only going 30 mph.
	As a friend he has no right to expect me to testify that he was only going 30 mph.

2/22. You are a journalist who writes a weekly review on newly opened restaurants. A close friend of yours has sunk all his savings into a new restaurant. You have eaten there and you really think the restaurant is no good.

What right does your friend have to expect you to go easy on his restaurant in your review?

☐	As a friend he has a definite right to expect me to go easy on his restaurant in my review.
☐	As a friend he has some right to expect me to go easy on his restaurant in my review.
☐	As a friend he has no right to expect me to go easy on his restaurant in my review.

Section II: Context Data:

I need to ask you a few additional questions in order to fine tune your profile to your personal situation.

Although I plan to perform statistical analysis on the data, your name will not be connected to your answers in any way. Later you will be asked to submit your name and email address only so that I can send you the results of the study if you are interested.

3/22. What is your gender?

☐	Male
☐	Female

4/22. What is your age range?

☐	Less than 20
☐	20-24
☐	25-29
☐	30 or over

5/22. What is your nationality? (The country where you were born)

6/22. What is your ethnicity?

7/22. What is your major or field of specialization in college?

8/22 What is your current classification?

	Freshman
	Sophomore
	Junior
	Senior
	Graduate
	Other

Section III: Life Situations and Events:

This set of questions represents five life situations. You are asked to specify your personal views and preferences.

As before, there are no right or wrong answers.

Try to answer each question independently without being influenced by any previous answers.

9/22. You are working in a team, and a defect caused by negligence of a member of the team is discovered in one of your projects. The responsibility could be carried by the individual alone, or by the team as a whole. Who do you think should carry the responsibility?

	The person causing the defect is responsible. Therefore he should be called to account by his superiors.
	Because people work on a team, the responsibility should be carried by the group. This time one member has made a mistake. Next time it could be someone else on the team.

10/22. Which description do you think applies better to an organization in which people work best?

	An organization is a place where everybody works together and where people do not get individual credit.
	An organization is a place where people are allowed to work individually and where people get individual credit.

11/22. In your opinion, which way of working is most effective?

	People work on their own, and each person is pretty much his own boss. Individuals decide most things for themselves such as how to go about getting their job done. They only have to take care of themselves, and they do not expect others to look out for them.
	People work together in a group, and everybody has something to say in the decisions that are made. People can depend on one another.

Section IV: Involvement in relationships:

The next set of questions consists of alternative descriptions of people (friends, neighbors, etc.). You are asked to give your opinion about these descriptions. Again, there are no right or wrong answers. For each item, you will be asked to rank your answers as first choice (most preferable) and second choice.

12/22. Which of the following four types of people do you prefer to have around you?

- a) People who are ESTEEMED by others and take a continuous interest in human welfare in general.
- b) People who are ENJOYED by others and take their joys and sorrows as they come from day to day.
- c) People who are LOVED by others and take a continuous interest in the personal welfare of those dear to them.
- d) People who are APPROVED of by others and attend to their affairs conscientiously from day to day.

First choice:

Second choice:

13/22. Which of the following four types of people do you prefer to have around you?

- a) People who are friendly and enjoyable to work with.
- b) People you can co-operate with to improve the quality and standards of your occupation and profession.
- c) People you can count on to do their jobs or tasks properly, as they should be done.
- d) People you have known and trusted for a long time and feel comfortable working with.

First choice:

Second choice:

Section V: Life events:

The next set of questions refers to the ways in which certain important events in society affect people differently. Each item consists of a pair of alternatives.

14/22. A teacher asks a student to help him paint his house. The student discusses the issue with a classmate. Which of the two arguments would you support the most?

	I do not have to paint the house if I do not feel like it. He is my teacher in the university. Outside the university he has little authority.
	Despite the fact that I do not feel like it, I will paint the house anyway. He is my teacher, and I cannot ignore that fact outside school either.

15/22. There are two extreme ways to consider an organization. Which of these two ways better represent the way you perceive the essence of an organization?

	An organization is a system designed to perform functions and tasks in an efficient way. People are hired to fulfill these functions with the help of machines and other equipment. They are paid for the tasks they perform.
	An organization is a group of people working together. The people have a social relationship with other people and with the organization. The functioning of the company depends on these relationships.

Section VI: Events:

The next series of questions address the way in which certain events in society affect people differently. Please choose the answer you believe to be more in line with your reality.

16/22. Of the following two statements, which do you believe to be more in line with your reality?

☐	Many of the unhappy things in people's lives are partly due to bad luck.
☐	People's misfortunes result from the mistakes they make.

17/22. Of the following two statements, which do you believe to be more in line with your reality?

☐	Most people do not realize the extent to which their lives are controlled by accidental happenings.
☐	There is really no such thing as luck.

Section VII: Personal convictions:

The last set of questions includes statements with which you strongly agree, agree, cannot decide on, disagree, or strongly disagree. You are asked to state your position. This is a measure of personal beliefs, and there are no right or wrong answers.

18/22. The respect a person gets is highly dependent on the family from which he comes.

☐ Strongly agree	☐ Agree	☐ Undecided	☐ Disagree	☐ Strongly disagree
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19/22. Men and women are different. Therefore, they should be treated differently.

☐ Strongly agree	☐ Agree	☐ Undecided	☐ Disagree	☐ Strongly disagree
---	--------------------------------	------------------------------------	-----------------------------------	--

20/22. It is important for a manager/supervisor be older than most of his subordinates.

☐ Strongly agree	☐ Agree	☐ Undecided	☐ Disagree	☐ Strongly disagree
---	--------------------------------	------------------------------------	-----------------------------------	--

21/22. Older people should be respected more than younger people.

☐ Strongly agree	☐ Agree	☐ Undecided	☐ Disagree	☐ Strongly disagree
---	--------------------------------	------------------------------------	-----------------------------------	--

22/22. In cases where I feel upset at work, I am inclined to express it.

☐ Strongly agree	☐ Agree	☐ Undecided	☐ Disagree	☐ Strongly disagree
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If you would like to receive a copy of my research's results, please write your name and email address in the following spaces:

Name:

Email address:

Thank you for answering this questionnaire.

APPENDIX B: GRADING RUBRICS FOR NMSU2'S CLASS

Documents 1-10

Proposal:

Is the problem or need clearly defined? Does it include the specifics of the problem and the criteria for a solution?

Does it show a careful understanding of the audience's needs?

Does it include a feasible and sound plan for a solution?

Does it include sections in this order:

Cover letter

Summary

Introduction

Problem statement

Objectives

Plan

Time/task schedule

Evaluation

Budget

Personnel

Facilities and equipment

Ongoing funding

Supplements?

Are the proposal's subheadings informative and well crafted? Are they written in parallel grammatical structure (e.g. prioritizing, identifying, etc.)?

Does the design show good verbal-visual integration?

Does the proposal include an appropriate amount of functional redundancy?

Documents 1-10

Report:

Does the report include a clear definition of the problem?

Does it forecast possible solutions?

Does it identify at least one research question?

Does it mention and establish research methods?

Does it include an accurate interpretation of the data obtained?

Does it include the following sections:

- Executive summary

- Introduction

- Problem statement

- Criteria for analysis and methods

- Conclusion

- Recommendations

- Appendixes?

Are the report's subheadings informative and well crafted? Are they written in parallel grammatical structure (e.g. prioritizing, identifying, etc.)?

Does the design show good verbal-visual integration?

Does the report include an appropriate amount of functional redundancy?

APPENDIX C: GRADING RUBRICS FOR NMSU3'S CLASSES

Documents 11-26

REVISION CHECKLIST FOR PROPOSALS

Does your draft include each of the elements needed to create a proposal that your readers will find to be usable and persuasive? Remember that some elements of the superstructure may be unnecessary for your specific readers and purpose and that the elements may be organized in various ways.

Introduction

Tells clearly what you propose to do?

Provides background information the readers will need or want?

Forecasts the rest of your proposal, if this would help your readers?

Problem

Explains the problem, need, or goal of your proposed action?

Persuades your readers that the problem, need, or goal is important to them?

Objectives

Relates your objectives directly to the problem, need, or goal you described?

Presents your objectives without naming your solution?

Solution (often the longest section of a proposal)

Describes your solution in a way that assures your readers can understand it?

Persuades that your solution will achieve each of the objectives you described?

Persuades that your solution offers an especially desirable way of achieving the objectives?

Protects you and your employer by clearly promising only what you and your employer want to deliver to your readers?

Method

Describes clearly the steps you will follow in preparing the solution?

Persuades that the method you plan to use for creating the solution will work?

Resources

Persuades that you have or can obtain the needed resources?

Protects you and your employer by clearly identifying any resources your readers must supply?

Schedule

Tells when your project will be completed?

Persuades that you have scheduled your work reasonably and soundly?

Protects yourself and your employer by clearly stating what your readers must do in order for you to be able to meet your deadlines?

Includes a schedule chart, if one would make your proposal more usable and persuasive?

Qualifications

If necessary, persuades that you have the ability to complete the project successfully?

Management

If your project is large, persuades that you will organize the people working on it effectively?

Includes an organizational chart, if one would make your proposal more usable and persuasive?

Costs

Persuades that you have presented all the costs?

Persuades that the costs are reasonable?

Protects you and your employer by including all your costs in your budget?

Includes a budget table, if one would make your proposal more usable and persuasive?

Conclusion

Summarizes your key points?

Concludes the proposal on a positive note that builds confidence in your ability to do a good job?

Reasoning

States your claims and conclusions clearly?

Provides sufficient evidence, from the readers' viewpoint?

Explains, if necessary, the line of reasoning that links your facts and your claims?

Addresses any counterarguments or objections that your readers are likely to raise at any point in your report?

Avoids making false assumptions and over generalizing?

Prose

Presents information in a clear, usable, and persuasive manner?

Uses a variety of sentence structures and lengths?

Flows in a way that is interesting and easy to follow?

Uses correct spelling, grammar, and punctuation?

Graphics

Included wherever readers would find them helpful or persuasive?

Look neat, attractive, and easy to read?

Referred to at the appropriate points in the prose?

Located where your readers can find them easily?

Page Design

Looks neat and attractive?

Helps readers find specific information quickly?

Ethics

Treats all the report's stakeholders ethically?

Presents all information accurately and fairly?

REVISION CHECKLIST FOR INSTRUCTIONS

Does your draft include each of the elements needed to create instructions that your readers will find to be usable and persuasive? Remember that some elements of the superstructure may be unnecessary for your specific readers and purpose and that the elements may be organized in various ways.

The following headings reflect the elements of the conventional superstructure for instructions.

In many situations, some of the elements are unnecessary.

Introduction

Describes the aim, purpose, or desired outcome of the procedure?

Identifies the intended readers (their knowledge level, job descriptions, etc.)?

Tells the scope and organization?

Indicates ways to use the instructions effectively?

Provides reasons for following the instructions (rather than using some other procedures)?

Explains the conventions used (abbreviations, etc.)?

Includes safety information?

Description of the Equipment

Shows the location of the key parts?

Explains the function of the key parts?

Materials and Equipment

Tells readers what materials and equipment to gather before starting the procedure?

Directions

Support rapid comprehension and immediate use by providing only the information your readers need, listing the steps, using the active voice and imperative mood ("Do this."), and highlighting key words?

Help readers locate the next step quickly by numbering the steps and putting blank lines between them, giving one action per step, and putting step numbers in their own column?

Distinguish action from supporting information by putting actions before responses, and making actions stand out visually?

Group related steps under action-oriented headings?

Use many graphics?

Present branching steps clearly?

Troubleshooting

Tells what to do if something fails or there is an unexpected result?

Graphics

Included wherever readers would find them helpful or persuasive?

Look neat, attractive, and easy to read?

Referred to at the appropriate points in the prose?

Located where your readers can find them easily?

Page Design

Looks neat and attractive?

Helps readers find specific information quickly?

Proofreading

Uses correct spelling, grammar, and punctuation?

REVISION CHECKLIST FOR REPORTS

Does your draft include each of the elements needed to create a report that your readers will find to be usable and persuasive? Remember that some elements of the superstructure may be unnecessary for your specific readers and purpose and that the elements may be organized in various ways.

Introduction

Announces the topic of the report?

Tells (or reminds) readers why you are writing on this topic?

Persuades the readers that the report is worth reading?

States briefly your main conclusions and recommendations, if the readers would welcome or expect them at the beginning of the report?

Provides background information the readers will need or want?

Forecasts the rest of your report, if this would help your readers?

Method

Tells the things your readers want to know about the way you obtained the facts and ideas presented in the report?

Persuades the readers that this method would produce reliable results?

Facts

Presents in clear and specific terms the things you found out?

Includes material that is relevant to your readers, and excludes material that isn't?

Discussion (often presented along with the facts)

Presents the generalizations you draw from the facts that will be useful and important to your readers?

Conclusions (often presented along with the discussion)

Explains the significance—from your readers' viewpoint—of your facts and generalizations about them?

States the conclusions plainly?

Recommendations

Tells what you think the readers should do?

Makes the recommendations stand out prominently (for instance, by presenting them in a numbered list)?

Indicates how your recommendations are related to your conclusions and to your readers' goals?

Suggests some specific steps your readers might take to act on each of your recommendations, unless the steps will be obvious to the readers?

Reasoning

States your claims and conclusions clearly?

Provides sufficient evidence, from the readers' viewpoint?

Explains, if necessary, the line of reasoning that links your facts and your claims?

Addresses any counterarguments or objections that your readers are likely to raise at any point in your report?

Avoids making false assumptions and over generalizing?

Prose

Presents information in a clear, usable, and persuasive manner?

Uses a variety of sentence structures and lengths?

Flows in a way that is interesting and easy to follow?

Uses correct spelling, grammar, and punctuation?

Graphics

Included wherever readers would find them helpful or persuasive?

Look neat, attractive, and easy to read?

Referred to at the appropriate points in the prose?

Located where your readers can find them easily?

Page Design

Looks neat and attractive?

Helps readers find specific information?

Ethics

Treats all the report's stakeholders ethically?

Presents all information accurately and fairly?

APPENDIX D: GRADING RUBRIC FOR UTEP1'S CLASSES

Accessibility

Is the site easy to enter, navigate, and exit?

Is required scrolling kept to a minimum?

Is downloading speed reasonable?

If interaction is offered, is it useful—not superfluous?

Does the site avoid overwhelming the user with excessive choices?

Content

Are all needed explanations, error messages, and help screens provided?

Is the time of each update clearly indicated?

Is everything accurate and up-to-date?

Are links connected to high-quality sites?

Does everything belong (nothing excessive or superfluous or needlessly complex)?

Is an email button or other contact method prominently displayed?

Does the content accommodate international users?

Arrangement

Is the key part of the message on the first page?

Are navigation bars, hot buttons, and help options clearly displayed and explicitly labeled?

Are links easily navigated—backward and forward—with back links to the home page?

Writing and Page Design

Is the text easy to scan, with short sentences and paragraphs, and do headings, lists, typesets, and color highlight important material?

Is overall word count roughly one-half of the hard copy equivalent?

Is the tone reasonable and restrained—free of overstatement and "marketese."

Graphics and Special Effects

Is each graphic easy to download?

Is each graphic backed up by a text-only version?

Is each graphic or special effect necessary?

Legal Considerations

Does the site display a privacy notice that explains how the transaction is being recorded, collected, and used?

Does each page of the site display a copyright notice?

Has written permission been obtained for each link to other sites and for each graphic element borrowed from another site?

Has all posted material received prior legal approval?