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Vanessa G. Lazo-Wilson

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**The Dissertation Committee for Vanessa G. Lazo-Wilson Certifies that this is the approved version of the following dissertation:**

**Technology Integration In Smart Classrooms At The University Level:**

**A Multiple-Case Study Of Lower Division Graduate Student Spanish**

**Instructors**

**Committee:**

---

Zena Moore, Supervisor

---

Elaine Horwitz

---

Orlando Kelm

---

Todd Reimer

---

Malia LeMond

**Technology Integration In Smart Classrooms At The University Level:  
A Multiple-Case Study Of Lower Division Graduate Student Spanish**

**Instructors**

**by**

**Vanessa G. Lazo-Wilson, B.A.; M.A.**

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**Technology Integration In Smart Classrooms At The University Level:  
A Multiple-Case Study Of Lower Division Graduate Student Spanish**

**Instructors**

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Vanessa G. Lazo-Wilson, Ph.D.

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The ever-increasing popularity of digital media and connectivity to the World Wide Web permeates every day culture to the extent that the use of modern technologies also influences the teaching of foreign languages. In connection with the desire to implement sound pedagogical practices that align with *Standards* of teaching foreign languages, teachers are turning to modern technologies to incorporate into their teaching repertoire. Not only do teachers attempt to integrate the four language skills and culture into their teaching, but they are now urged to incorporate technology into their curriculum. The smart classroom offers the greatest potential for instructors to integrate technology into their curriculum, since this resource is already available across college campuses.

This qualitative multiple case study explored the conceptualization and re-conceptualization four lower division instructors of Spanish made as they attempted to integrate the resources their smart classrooms had to offer. Secondly, this research project also highlighted the challenges instructors faced while integrating technology into their curriculum. Lastly, this study underscored the advantages instructors believed might derive from integrating technology into their classrooms.

Data for this study was collected from four main data sources. Five observations were conducted during the fall of 2005. Three semi-structured interviews were conducted with each of the participants at the beginning, middle, and end of the semester. Email reflections were requested from the instructors every two to three weeks during data collection. The course syllabus, lesson plans, and class activity handouts comprised the documents data base.

Findings profiled the changes instructors made over the course of the semester in terms of their conceptualizations and re-conceptualizations of the technology offered by smart classrooms. The challenges instructors faced suggest that instructors need to take advantage of more professional development opportunities, as well as enter into dialogue with their peers and other instructors. The advantages highlighted the depth and breadth of the foreign language learning experience, as well as the affordances the accessibility and availability of information stored on the Internet can hold for instructors. This study concludes with pedagogical implications and recommendations for directions of future research.

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## **Chapter 1: Introduction**

The launching of the soviet satellite Sputnik in 1957, along with the discussions and reports surrounding teacher training efforts that arose after the passing of the National Defense Education Act (NDEA) in 1958, incited departments of foreign language to begin to address the impact the rapid evolution technology would have on their curricula (Schulz, 2000). This new era would herald in the popularity of the audio-lingual method that underscored the importance of fully equipped laboratories for language teaching, paving the way for computer assisted instruction (CAI) in the late 1960s. The introduction of CAI afforded teachers and students the option to embrace a more integrated curriculum by incorporating CAI activities into the rest of the foreign language curriculum, potentially leading to more sound pedagogical practices (Brink, 1986, p. 42; as cited in Salaberry, 2001, p. 44).

This particular study takes place in the Spanish Department at The University (TU), a large public top tier research university in the southwestern area of the United States. This qualitative multiple-case study describes the impact technology integration in smart classrooms has on the teaching practices of four Spanish 4 instructors of lower division Spanish. The challenges and advantages of integrating technology into their curriculum are revealed over the period of this study, in order to document the process of incorporating technology into the foreign language curriculum, and underscore areas that still need to be carefully addressed within the scope of technology integration in the foreign language classroom.

## **RATIONALE**

Now, in the dawn of the 21<sup>st</sup> century, walking through university and college campuses, public, private, two year or four year post-secondary institutions, one can see students, professors, administrators and staff with laptops at the ready, blackberries, and even iPods in and out of class. This pervasive use of modern technologies indicates the ubiquitous nature of the impact technology has in the United States. Not only can one become immediately connected and wired, but programs within departments in university settings are finding that technology is becoming more widespread in classrooms across campuses. The competition to attract and retain students is fierce in this rapidly changing global economy, making it essential for institutions to offer facilities, courses, and individuals with the know-how to enrolled and prospective students. When students make the investment to enroll in institutions of higher learning, for the most part, they have decided to “come to college to *learn about* and also *learn with* computers and information technology” (Green, 2000, p. 1). Colleges and universities need to be able to draw in their clientele that come from a variety of backgrounds and spans the ages of 17 to 67. (Green, 2000)

In order to attempt to address the changing tides this technological revolution has brought about, The American Council of Teachers of Foreign Languages (ACTFL) has undertaken the arduous task of creating technology standards around which teachers of foreign language can begin to integrate technology into their existing teaching repertoires. ACTFL has only begun to address the need for technology standards, and

has yet to publish a specified set of guidelines foreign language educators can use to incorporate technology into their practices. Foreign language educators across all levels of instruction must typically learn to concentrate their own time and effort into attempting to integrate technology of their own accord, but only if the desire and technology is at their disposal. A task force that contributed to a 1998 study by the South East and Islands Regional Technology in Education Consortium offers the following definition of *technology integration*. At the same time this study provides a definition of *practices* in incorporating technology in the classroom:

Technology integration is the incorporation of technology resources and technology-based practices into the daily routines, work, and management of schools. Technology resources are computers and specialized software, network-based communication systems, and other equipment and infrastructure. Practices include collaborative work and communication, Internet-based research, remote access to instrumentation, network-based transmission and retrieval of data, and other methods.

A caveat accompanies this definition on technology integration, claiming that this is not a definition of successful technology integration. According to this definition technology integration involves a routine that is seamless, and is efficient and effective while also supporting school goals and purposes. Furthermore, technology integration is not an end to itself, but a goal-in-process since technologies continue to change, evolve, and improve, so would integration of technology, as long as we provide a culture that supports the use of technology and even embraces said usage (e.g., sending messages by email, or, encouraging staff to use electronic calendars).

In foreign language, technology integration is addressed by several scholars. Bax (2003) and Warschauer (2000) agree with the above definition, in that technology usage

should be seamless and have clear goals that support objectives foreign language instructors may have. Salaberry (2001) linked the success of a technology-driven activity to the successful accomplishment of pre- and post- activities, more so than on the technology activity itself. He stated that “the success of a pedagogical activity based on the analysis of information retrieved from a textbook, a videotaped program, or the Internet is inherently dependent on the type of processing generated by task demands placed upon the learner...” (Salaberry, 2001, p. 51). According to Salaberry, technology integration is the connection made between activities, one of them revolving around a technology-driven element.

In order to keep abreast of the turning tides the technological revolution and the new millennium have brought about, institutions of higher learning are revamping their more traditional computer laboratories and calling them variations of “language learning center” or “language resource center.” Furthermore, the infrastructure that tends to support foreign language departments and the classrooms in which foreign languages are taught may not only have a computer laboratory, but may even boast some or many *smart classrooms*.

A *smart classroom* is one of the more common terms used in academic settings in the United States to refer to classrooms that have a technology set up, a set up that may differ from one institution to another (Vartabedian, 2002; Zhong & Shen, 2002). Smart classrooms can also be referred to as “electronic or technologically enhanced classrooms” and are endorsed in order to “create new opportunities in teaching and learning by integrating networking, computers, and audio visual technology” (Vartabedian, 2002, pp.

4-5). There are four basic smart classroom set ups: (1) basic AV/TV classroom, (2) smart plug-and-show presentation classroom, (3) interactive computer classroom, and (4) two-way communication classroom (Smarter College Classroom Home Page). A more detailed description of the classrooms pertaining to the current study, including snapshots, is given in chapter three. At The University, in order to safeguard the equipment and the information access to the Internet may purvey, users of smart classrooms are given keys and passwords to gain access to the technology.

Typically, the greatest challenges that confront instructors when attempting to integrate technology have been the: (1) lack of time, (2) infrastructure shortcomings, (3) availability of resources, and (4) professional training. Now, with the more extensive availability of smart classrooms, many of the obstacles that impeded integration of technology have been addressed. The mere capability for institutions to be able to house smart classrooms has solved some of the predominant infrastructure shortcomings, and has addressed the availability of resources; however, time and instructor training still remain issues that remain unresolved. Inasmuch as smart classrooms do offer instructors the tools to overcome some of the hurdles, these types of classrooms, most commonly available in institutions of higher learning, offer the greatest potential for technology integration in a typical university setting in the United States.

Across the board, foreign language departments offer *lower division* courses, which constitute the vast majority of course sections offered by a single foreign language department. Lower division courses comprise the basic series of courses offered by the Spanish program at TU and encompass the introductory and intermediate levels of study.

The sequence of courses is as follows: Spanish 1 (first semester), Spanish 2 (second semester), Spanish I (intensive first and second semester), Spanish 3 (third semester), and Spanish 4 (fourth semester). The lower division program is described in more detail in chapter three since it pertains to the setting and program. The lower division program was chosen due to the sheer quantity of undergraduate students that enroll in these classes. In the spring of 2005, 126 sections of the basic levels of lower division Spanish were offered to over 3,000 students, while upper division courses are not as widely populated. Three upper division courses offer between three and six sections: Civilization of Spanish America (6 sections), Introduction to Spanish American Literature through Modernity (3 sections), and Introduction to Spanish American Literature since Modernity (3 sections). Consequently there is a need for graduate students to teach the vast majority of lower division classes.

At this particular institution under study, there are four basic levels of Spanish in the lower division program. Illustrative of large university settings across the United States, this particular institution gives students the option to enroll in one of the 18 to 29 sections, depending on level. In sum, the fall 2005 semester has 118 sections available for students needing to, or wishing to, enroll in a basic level Spanish class. Each section is capped at 25 students, thus making the potential student clientele for the fall semester approximately 2,950 students strong. The bulk of these sections are already either closed or waitlisted for the fall semester, supporting the potential for more sections to be opened up, if instructors and funding are available. In contrast, the upper division courses offer one to three sections, with the one exception of the six sections “Civilization of Spanish

America,” a required course for majors in the department. Thus, over 100 graduate students from the Spanish department and other related departments are employed to teach the basic level lower division courses in the Spanish department.

As a result, graduate students find themselves teaching a basic level language course, having taken, or being simultaneously enrolled in, a methods class to prepare them for the classroom. Oftentimes, these Graduate Student Instructors (Sis) will be the first contact undergraduate students will have with the department, thus deeply impacting the instructor’s need to be a good spokesperson on behalf of the department. This responsibility also proffers the opportunity for GSIs to gain valuable insight into sound pedagogical practices that will better arm them for a competitive job market upon completion of their doctoral degrees, regardless of the specific area they may wish to pursue. Ultimately, the experience and challenges these GSIs have in smart classrooms offers insight into the greatest potential for technology integration emblematic of like institutions in the United States.

Lower division instructors at TU are, on the most part, students of the university that hold graduate standing in a department at TU. Not only are these students graduate students, but, in order to teach lower division undergraduate Spanish courses, they must have the prerequisite graduate hours, or, hold a master’s degree and speak Spanish. Graduate students from other departments who wish to procure a teaching appointment in the Spanish Department, in order to gain experience or secure funding for their studies, must first undergo a careful screening process. When appointed by the university, these instructors earn a variation of the title of Teaching Assistant (TA) or Graduate Student

Instructor (GSI). For the purpose of this study, in order to maintain uniformity with the literature, the terms TA, GSI, and instructor will be used interchangeably when referencing the individual solely responsible for their classroom teaching who holds graduate standing at TU.

## **STATEMENT OF THE PROBLEM**

Upon successful completion of a basic methods course, and yearly pre-service instructor departmental meetings, GSIs will generally embark on a road to relative autonomy that will outlast their roles as graduate students (Rava & Rossbacher, 1999). A handful of programs nationwide have begun to address the need for TAs to be trained in educational technology and have supplemented traditional methods courses with language technology modules (Garrett, 1991; Kassen & Higgins, 1997; Rava & Rossbacher, 1999); however, these types of courses are few and far between. For the most part, GSIs must, of their own accord, be able to select the appropriate activities and tools that will best support the topic at hand. Heralded into the 21<sup>st</sup> century with the push to incorporate technology into instruction, particularly when housed in state-of-the-art facilities, GSIs may wonder how best to integrate technology into an already set curriculum. Kramsch (1999) argued that:

The electronic revolution and the sudden access to unlimited sources of information in oral, written, visual, and electronic form are putting in question the very notion of discipline; they are forcing teachers, and not only language teachers, to decide what is important to know and to pass on, and what is expendable knowledge, beyond what textbooks and custom tell teachers to teach. (p. xv)



Along with the need to be better armed to use technology in the classroom, foreign language instructors are also faced with the task to determine what is essential knowledge beyond what is presented in a textbook.

The Spanish Department at the TU moved into new facilities in the fall of 2004. These facilities were built to meet modern specifications with the infrastructure requirements needed to support new technologies. The move to the new facilities placed a new level of expectation on the GSIs spread by the course supervisors. The supervisors recommended that instructors incorporate technology into their teaching by making use of their smart classrooms and by visiting the computer laboratories when schedules permitted. However, at that time, workshops or courses on technology integration in the foreign languages were not offered by the department to help GSIs make this transition. Some course supervisors did post information about university-sponsored instructional technology classes on course websites, and encouraged instructors to attend in their free time. However, graduate students are full-time students who must teach part-time with a 20-hour per week commitment, and may have other personal demands that impede them from having available time for extra classes on instructional technology. In order to prepare a lesson that incorporated technology, additional preparation time is required. GSIs do not receive any type of immediate remuneration or rewards for partaking of professional development opportunities.

In order to address how GSIs potentially integrate technology into their teaching while making decisions about what type of technology to use in the classroom that will best support their teaching, this research study will describe the experiences of four lower

division instructors of Spanish in smart classrooms at TU. By observing smart classrooms, conducting a series of three interviews with each participant, and collecting instructor and course related documents during the Fall 2005 semester, I, as the primary data collection tool and researcher for this project, will highlight what happened in these classrooms with regards to technology integration and preparation for teaching in smart classrooms on a large public university campus setting.

A social anthropological perspective in recounting these experiences is lacking in the literature on technology integration in foreign language education. The literature reviewed pointed to the need to document teachers' preparation and experience, in regards to technology integration in the foreign language curriculum, adding that more studies using a qualitative research paradigm are in order (Bax, 2003; Davis, 2005; Garrett, 1991; Salaberry, 2001). A qualitative multiple-case study approach will serve to recount what happens when lower division instructors of Spanish integrate technology into their curriculum. This study seeks to underscore possible conceptualization and reconceptualizations of teaching practices, highlight challenges instructors face when integrating technology into their curriculum, and illustrate what advantages instructors believe derive from using technology in the classroom.

### **The Research Paradigm**

A qualitative research paradigm was chosen, since it best describes what I seek to unearth, in order to contribute to the existing body of research on the topic of technology integration in foreign language education. Patton (1990) firmly urged researchers to

consider first what one wishes to find out about, before deciding on what type of paradigm to consider, adding that quantitative, qualitative, and mixed methods all possess their strengths and weaknesses. Naturalistic inquiry lends itself to this research project, since a deeper understanding is sought of real world situations as they appear to unfold without manipulation of the environment. “The point of using qualitative methods, is to understand naturally occurring phenomena in their naturally occurring states” (Patton, 1990, p. 41). In the pursuit of depth of information, and in order to satisfy this desire, information-rich cases were chosen to capture people’s perspectives and experiences. While “statistical data provide a succinct and parsimonious summary of major patterns...select case studies provide depth, detail, and individual meaning” (p. 17). Furthermore, a multiple-case study approach will also strengthen the validity of the findings, since a cross-case comparison can be used in data analysis, thus enhancing the external validity of the findings (validity will be discussed in more detail in chapter three).

### ***Conceptual Framework***

The use of technology as a teaching tool to integrate into existing instructional practices, while possibly needing to re-conceptualize ones’ teaching practices, creates a space to refer to Donald Norman’s design and usability of consumer products; in this case, the smart classroom. The design of the smart classroom, along with the challenges and advantages said technology can present to its users aligns with Don Norman’s body of work.

Donald Norman supports the argument that the learning process and the usability of certain elements would be best supported if one were to look carefully at the design of “everyday things” in his book *The Design of Everyday Things* (1988). Norman (1988) clearly delineates the paradox that technology poses and argued that:

Technology offers the potential to make life easier and more enjoyable; each new technology provides increased benefits. At the same time, added complexities arise to increase our difficulty and frustration. The development of technology tends to follow a U-shaped curve of complexity: starting high; dropping to a low, comfortable level; then climbing again. (p. 30)

In his insightful books on the complexities of designs, Don Norman is able to analyze the relationship the user develops between objects in order to determine the usability of the object, as well as needing to rely on memory as an element that dictates our relationship with the prior experience. However, Don Norman adamantly supported the idea that technology, specifically computers, needs to incorporate certain design elements that would give the user the right set of feedback cues. Certain elements can be incorporated into the design to aide the user and not add to their “learned helplessness.” “People experience failure at a task, often numerous times. As a result, they decide that the task cannot be done, at least not by them: they are helpless. They stop trying” (p. 42). Some of the elements of design that can improve the user experience would be to improve feedback and visibility. In fact, “the best computer programs are the ones in which the computer itself ‘disappears,’ in which you work directly on the problem without having to be aware of the computer” (p. 180).

In summary, I have discussed Norman’s theory as it applies to this project. Donald Norman argued that an individual’s experience with technology tends to follow a

U-shaped curve of complexity, underscoring that a dip in the perceived complexity occurs before a higher, more challenging level is present to later be understood and learned. Norman advocated for clarity of feedback and visibility in regards to usability. Through improved design, an individual's memory and connections with the experience will aide them in overcoming a "learned helplessness" often encountered when dealing with technology.

## **BACKGROUND OF THE STUDY**

The pertinent literature for this research is subdivided into the following literature strands: technology integration in education, change in teaching practices, use of technology in foreign language teaching and learning, and technology integration in foreign language education. Articles that utilize similar methodologies, frameworks, and address technology in foreign language will be highlighted toward the conclusion of this section.

### **Technology Integration in Education**

A review of the articles pertaining to the broader spectrum of technology integration in education finds that there are diverging views as to the extent of the use and longevity of technology in the classroom. Some skeptics are not certain what role computers will permanently take in the classroom, especially when they compared the use of computers to radio and television's minimal impact on the classroom at large (Tyack & Cuban, 1995). Furthermore, Cuban (2001) argued that students and teachers

“use computers far less in the classroom than they do at home, and that teachers who use computers for instruction do so infrequently and unimaginatively.” The National Center for Education Statistics (NCES) found a more promising result in that more than half of public school teachers who had computers and the Internet used them for instructional purposes; however, use declined with a higher percent of minority enrollment in schools (Smerdon et al., 2000).

Ronnkvist, Dexter, & Anderson (2000) found that “successful integration of technology into the classroom requires the availability of quality technology support” (p. 26). In their words, support means not just the infrastructure capabilities of the building and classrooms, but also the training and encouragement teachers integrating the technology receive. The authors argued for widespread help to encompass all aspects of instructional support from the teacher in the classroom to the administration.

“Technology coordinators must be trained to bridge technical ability with classroom teaching experience; their leadership and administrative capacities should be nurtured; and their aptitude for instructional design should be developed” (p. 26). Not only, do teachers need the support, but the “technology experts” need to be available and schooled in assisting teachers in helping them best develop an integrated curriculum. Furthermore, space and time need to be available if “technology leaders hope to increase the frequency and variety of teachers’ uses of technology” (p. 26).

## **Change in Teaching Practices**

The late eighties brought about the Apple Classrooms of Tomorrow project (ACOT), and with it, the expectation that teacher beliefs and practices might change with the advent of technology-rich classrooms (Dwyer, Ringstaff, & Sandholtz, 1991). The ACOT project began in 1985 with teacher, parent, and administrative support “an ambitious program whose espoused goal is change in instruction and learning” (Dwyer, Ringstaff, & Sandholtz, 1991, p. 46). At the outset of the program, teachers’ beliefs were “ingrained in the traditional classrooms where they spent years, first as students and later as teachers” (p. 46). Over the course of this longitudinal study, the authors found that teachers moved through a series of five stages when the computers were introduced in their classrooms: (1) entry, (2) adoption, (3) adaptation, (4) appropriation, and (5) invention. The first four stages brought about replication of traditional teaching practices; however, “individuals’ movement to Invention seemed coupled with their newfound interest in, and ability to question, the very foundations of their craft” (p. 50). The authors viewed the first four stages as “stage-setting” for the reflective process that undoubtedly ensues upon entering the final stage.

In using technology in the classroom, the underlying hope is that teachers will no longer feel the need to take center stage, so that gradually, over the course of time, the role of students and teachers in traditional classrooms will shift. “Teachers will act more as facilitators by helping students access information, process it, and communicate their understanding” (Dexter, Anderson & Becker, 1999, p. 221). The literature in this area pinpoints that teachers tend to fall in a range of teaching styles from instruction to

construction. Instruction, in this sense, is the traditional teacher-centered approach to imparting knowledge and information. On the opposite end of the spectrum lies construction, in which students are placed in a situation where they have to actively construct knowledge. In this case, the active construction of knowledge occurs with the use of technology as a tool to achieve learning goals or outcomes. The assumption undergirding this tenet is that if teachers change their practices in the direction of a more constructivist leaning, their students will benefit through becoming more engaged in and their imaginations ignited by the subject under study.

### **Use of Technology in Foreign Language Teaching and Learning**

Articles that favored the use of different types of technologies in the classroom supported the use of technology as a tool to aide student learning and to improve understanding through various means. Some articles incited a call for more empirical research detailing the effectiveness of complete interactive video textbook packages (Secules, Herron, & Tomasello, 1992). More current articles looked at student perceptions of the use of video materials in the classroom (Garza, 1996; White, Easton, & Anderson, 2000), whether or not different types of media can actually improve language students' ability in the foreign language (Herron, Corrie, Dubreil, & Cole, 2002), how the use of media can alleviate some of the affective factors that seem to accompany the language learning experience in the classroom (Garza, 1996), and how language learning can become more enjoyable and entertaining when technology is incorporated into the



classroom (Chiquito, Meskill, & Renjilian-Burgy, 1997; Garza, 1996; Liskin-Gasparro & Véguez, 1990).

Two qualitative case studies detailed the use of technology in French language classrooms. They differ from the currently proposed project in that the focus in the articles is on students' experiences with technology as French students visit the computer laboratory once a week (Bradley and Lomicka, 2000) and on the impact an innovative French program at a Research I institution has on power and politics within the department (Davis, 2005). However, the overall design of the research does align with this current qualitative research design. The in-depth phenomenological three series of interviews was utilized (Bradley and Lomicka, 2000; Davis, 2005), as well as observations, and document collection to ensure data triangulation. Bourdieu and Jordan served as the lenses through which data analysis and contextualization of data was articulated. Davis expressed that he did not want to be limited by the constraints only one framework would offer (Davis, 2005).

### **Technology Integration in Foreign Language Education**

Although a greater number of articles existed that addressed the broad issue of technology integration in education and the general uses of technology in the foreign language classroom, a scant number of articles surfaced directed to technology integration in foreign language education. A state survey found that teachers needed to improve their knowledge on how to integrate technology with other activities that took place in the classroom (Moore, Morales, & Carel, 1998; Smerdon et al., 2000). Several

articles addressed the need for preparing pre-service foreign language teachers for their classrooms in regards to technology use while meeting state and national technology standards (Crookes, 1997; Garrett, 1991; Schulz, 2000; Wildner, 1999). The preponderance of these articles, however, took place in K-12 settings more so than university settings. A mere handful of articles dealt directly with the question of how university language instructors, or TA's, can integrate technology into the curriculum (Goldfield, 2001; Kassen & Higgins, 1997; Rava & Rossbacher, 1999; Salaberry, 2001).

Of a more theoretical bent, Kramersch (1995) cautioned readers to be mindful of the potential divide between learning and understanding, a schism that may pose one of the biggest challenges for teachers. Kramersch pushed for a more integrated relationship not only in the classroom, but also among the professoriat in literature departments, second language acquisition specialists, and teachers in the classroom (Kramersch, 1998, p. 25; as cited in Goldfield, 2001, p. 105). Goldfield (2001) recommended that “we might establish a professional dialogue on graduate student preparation and faculty development in related fields, possibly using technology as the neutral playing field for part of such an exploration” (p. 105). Furthermore, Garrett (1991), like Kramersch, pushed for an integration of all areas dealing with the foreign language classroom and stated that:

Some of our most important priorities – focus on the individual learner, a true integration of the teaching of language and the teaching of cultural understanding and literature (not just a smooth articulation between them), bridging the gap between theory and classroom practice – can be strongly supported by intelligent uses of technology. (p. 95)

Here Garrett underscored the importance not only technology can have in the classroom, but also that it is imperative that instructors acknowledge all areas within the foreign language curriculum, while using technology in the best way to support these areas.

Only two qualitative articles that addressed technology integration in the foreign language classroom at the university level were found at the writing of this document. Burnett (1999) discovered that one French TA (Leslie) merely attempted to assimilate a computerized curriculum to her already existing teaching practices, avoiding the assessment of her instructional repertoire. Leslie argued that the computerized program needed to be adapted to fit her needs as a teacher. Like Davis (2005), two theoretical frameworks, symbolic interactionism and social constructionism, were used to undergird the findings of the study. This article ended with a plea for more articles that seek to understand the instructor's view when the integration of technology is introduced into a curriculum. Osuna's (2000) qualitative study investigated the tension created when attempting to incorporate technology into an advanced Spanish course. Osuna analyzed her study in light of the [meta]cognitive, affective, and social factors at play when promoting cultural understanding in an advanced Spanish course. Findings indicated that learning can be assisted by computers, but that there existed the need for careful interplay and "orchestration" of the curriculum. Like the current study, Vygotsky's sociocultural theory provided the backbone for analysis of Osuna's study. Findings indicated that learning can be assisted by technology; however, the reader is warned that careful consideration to program needs and design are imperative.

## **PURPOSE OF THE STUDY**

The purpose of this study is to examine what happens when lower division instructors of Spanish teaching in smart classrooms integrate technology into their curriculum. In particular, how might instructors conceptualize or re-conceptualize their teaching practices when faced with a smart classroom, since smart classrooms pose the greatest potential for the integration of technology in lower division Spanish courses. In addition, this study also serves as a means to document the challenges and advantages smart classrooms may present to instructors. The research questions are as follows:

1. How might instructors conceptualize or re-conceptualize their teaching practices when integrating technology into their curriculum?
2. What challenges do instructors face when integrating technology into their curriculum?
3. What advantages do instructors believe derive from using technology in the classroom?

## **Significance of the Study**

Inasmuch as smart classrooms pose the greatest potential for technology integration in the foreign language classroom, instructors may be faced with the need to reflect upon and even change their existing teaching practices in order to incorporate the new technology into their practices and curriculum. Through looking in depth at four instructors of fourth semester Spanish, challenges and advantages encountered in the

semester under study will be documented, in order to address the challenges and highlight the advantages when preparing instructors for the changing climate of foreign language departments. Departments of foreign languages are expecting more of their future hires to be proficient in the uses of technology, better yet in the “seamless integration of technology in all areas” (Bax, 2003; Salaberry, 2001; Warschauer, 2000).

In particular, the instruction of foreign languages can be improved with the aide of technology and the improvements of said technology over time. Traditional foreign language laboratories paved the way for Computer Assisted Instruction (CAI), Computer Aided Language Learning (CALL), modern language resource centers, and now the more prevalent smart classroom. The smart classroom places the technology at the disposal of the teacher in the classroom. No longer do teachers have to depend on the weekly scheduled availability of the language laboratory for students to be exposed to authentic language and materials, exercises, and the entertainment of the Internet. Now with the availability of the smart classroom at their fingertips lies the potential, on a daily basis, for instructors to utilize some of these tools and incorporate them into their teaching practices.

## **CHAPTER SUMMARY**

Clearly there is a need to recount the experience of current Graduate Student Instructors (GSIs) as they confront the issues that arise in the attempt to integrate technology into an already predetermined curriculum. The current research project details the choices, challenges, successes, advantages, and disadvantages that using

technology in the classroom presents for these lower division Spanish instructors. In so doing, a gap in the existent literature will be filled, and furthermore, educators will become more informed by the thick description offered herein. At the same time, this study, within its scope, answers a call for more qualitative research in this area. The experiences of these four instructors of lower division Spanish may further elucidate this phenomenon for other graduate students, supervisors, and institutions that seek to bridge the gap between more traditional teaching practices and the pedagogical and curricular advances that newer technologies offer the foreign language smart classroom.

## **CHAPTER 2: Review of the Literature**

### **INTRODUCTION**

I will provide a general overview of technology integration in education as well as changes in teaching practices in light of the use of technology in the classroom to present broad enough coverage for the current research project. While giving an overview of technology integration in education and change in teaching practices, I will also address teacher change. A funnel approach to the review of the literature serves to narrow the general theme of technology integration in education to technology use in foreign language education. The last portion of this chapter presents a survey of the most pertinent and recent studies that pertain specifically to technology integration in foreign language education in university settings. Furthermore, I highlight the few qualitative studies that address technology integration in foreign language education, stressing their methodologies, theoretical frameworks, and overall findings as they add relevance to the area under investigation for the current research project.

### **TECHNOLOGY INTEGRATION IN EDUCATION**

The literature that spans technology integration in education is broad and covers a wide variety of sources, perspectives, and research designs. Articles that give a broad enough exposition to the integration of technology in education are of particular interest. At the same time, these articles offer specific examples of technology integration projects in schools that address the existence of programs that attempt to integrate technology into

the curriculum. The preponderance of these programs tends to be developed in Science, Mathematics, and Social Studies classrooms, leaving the field of Foreign Language Education virtually unexplored (Dwyer, Ringstaff, & Sandholtz, 1991). Furthermore, the resources available to teachers varied across subject areas. Teachers in Science, Computers, Vocational, and Fine Arts reported greater availability of technology resources than teachers who taught Foreign Language (Ronnkvist, Dexter, & Anderson, 2000).

### **An Overview**

A broad review of the articles pertaining to technology integration indicated that there are diverging views as to the extent of the use and place of technology in the classroom. Tyack and Cuban (1995) were not certain what role computers would permanently take in the classroom, particularly when they compare the use of computers to radio and television's minimal impact on the classroom at large. The authors also argued that access to computers in the classroom is limited by the socio-economic status of the families and schools (Tyack & Cuban, 1995). Even if teachers had access to computer equipment and to software, rarely did it lead to "widespread teacher and student use" (Cuban, Kirkpatrick, & Peck, 2001, p. 813).

Postman (1996) also questioned the need for, and the motivation behind, computers in classrooms. Postman stated that "approximately 35 million people have already learned how to use computers without the benefit of school instruction" (p. 293). Postman further underscored that "what we needed to know about cars – as we need to



know about computers, television, and other important technologies – is not how to use them but how *they* use us” (p. 293). Postman presented a view that questioned the usefulness of computers in classrooms and believed that those who supported the heavy use of computers may be making hasty decisions based solely on the popularity of the technology. Postman did attempt to make powerful arguments against the usefulness and purpose of computers in the classroom; however, his assumptions have been proven outmoded in light of current research that underscores the advantages technology presents in the classroom.

The National Center for Education Statistics (NCES) reported a more promising result that supports a counter argument to Postman’s (1996) and Tyack & Cuban’s (1995) presence and use of computers in schools. The NCES report underscored that more than half of public school teachers who had computers and the Internet used them for instructional purposes; however, use declined with a higher percent of minority enrollment in schools (Smerdon et al., 2000). In 1999, 99 % of public school teachers report having computers available to them somewhere in their schools (p. ii). Although these computers may have been accessible to teachers, only 10 % of teachers reported having more than five computers in their classrooms (p. ii).

On the other hand, the Apple Classrooms of Tomorrow project (ACOT) that was first established in 1985, found that technology integration in K-12 schools can bring about positive change in teachers’ beliefs, which can then carry over into changed teaching practices in the classroom. The teachers, administrators, parents, and students involved in ACOT recognized that integrating computer technology into the classroom

may not bring about immediate change, and in fact, would be fraught with challenges and stumbling blocks. However, over time, teachers saw themselves moving from a more instructive and teacher-centered approach to more constructive and student-centered practices (Dwyer, Ringstaff, & Sandholtz, 1991). The ACOT project outlined and exemplified the possible stages teachers may undergo when computers are introduced into the curriculum.

## **CHANGE IN TEACHING PRACTICES**

When the teacher in the classroom is placed in a different role than the one they have become accustomed to, they are faced with the role of “teacher as learner.” The balance of integrating ones’ existing practices with any new element becomes a delicate one, as pointed out by Fullan (1992):

For teachers to implement any new instructional strategy, they must acquire new knowledge about it and then weave this together with the demands of the curriculum, classroom management, and existing instructional skills. (Fullan, 1992; as cited in Dexter, Anderson, & Becker, 1999, p. 223)

The essence of incorporating a new element into ones’ teaching practices brings about change. McLaughlin (1991) noted that:

Instruction as observed in a classroom at any point in time reflects a teacher’s response to many elements in the school and classroom setting – students, competing demands, instructional goals, norms, and expectations, to highlight just a few. Teaching practice is embedded in...the ‘nowness’ of the teaching context (McLaughlin, 1991, p. 69; as cited in Dexter, Anderson, & Becker, 1999, p. 223).

In fact, oftentimes teachers must make decisions spontaneously in the classroom when an activity may not be progressing according to plan. Only later, given time, some teachers may be able to take a moment to reflect upon what occurred in the classroom.

Dwyer, Ringstaff, & Sandholtz (1991) found that when teachers who participated in the Apple Classrooms of Tomorrow project (ACOT) were given the opportunity to reflect upon their teaching experiences, this provided the starting point to shape change.

Dwyer, Ringstaff, & Sandholtz (1991) stated that:

But as evolution proceeds, teachers increasingly need opportunities to think about instruction and learning; to confront their actions and examine their motives; to bring their beliefs to the surface; and to critically reflect on the consequences of their choices, decisions, and actions. They need opportunities for ongoing dialogue about their experiences and for continuous development of their abilities to imagine and discover more powerful learning experiences for their students. (pp. 51-52)

When teachers are given time to reflect about their choices, decisions, and actions in the classroom, their development should continue over the course of time. The choices, decisions, and actions in the classroom are some of the elements that comprise teaching practices. In the ACOT project, teaching practices changed over time. Researchers were able to pinpoint five stages as new patterns of teaching and learning emerged.

During the first phase, *entry*, boxes of computers began to arrive and classrooms were rewired. “Teachers found themselves facing first-year teacher problems: discipline, resource management, and personal frustration” (Dwyer, Ringstaff, & Sandholtz, 1991, p. 47). The second phase, *adoption*, brought with it the struggles of attempting to use the computers to “support traditional text-based drill-and-practice instruction” (p. 47).

Teachers did begin to notice improvement among individual students. *Adaptation*, the

third phase, found technology being thoroughly integrated into the traditional classroom practice. During this stage, “lecture, recitation, and seatwork remained the dominant forms of student tasks” (p. 47), supported 30-40 percent of the time with computer-assisted instruction (CAI) packages. ACOT teachers noticed students’ improved engagement in tasks and interest in using the computers during adaptation. The fourth phase, *appropriation*, occurred during the second year of the program. “The change hinged on each teacher’s personal mastery – or appropriation – of the technology” (p. 48). One of the teachers overcame a barrier that impeded the software from running, a case that demarcated the teacher’s drive and motivation, since even the software company representative had encouraged the teacher to avoid using the piece of software. Teachers arrived at this stage independently of each other, as every teacher’s gradual shift in teaching practices changed at different times. Team-teaching and project-based instruction became more and more common during this phase. Appropriation was also marked by an increased amount of teacher reflection on their old teaching practices, putting into question their old patterns that allowed them “to speculate about the causes behind changes they were seeing in their students” (p. 50). The last and final phase, *invention*, serves as a “placeholder” for further change and evolution in the classroom. During this phase, the “individuals’ movement to invention seemed coupled with their newfound interest in, and ability to question, the very foundations of their craft” (p. 50)

Dwyer, Ringstaff, & Sandholtz (1991) recognized that some changes began to take place in the earlier stages that lay the foundation for teachers to prepare for the final stage, invention, to take place. “Instructional change can only proceed with a

corresponding change in beliefs about instruction and learning. Teachers' beliefs may be best modified while they are in the thick of change, taking risks and facing uncertainty" (p. 52). The authors underscored not only the importance of teachers undergoing a reflective process, but to enter into dialogue and observe peers as an integral part to bring about more deep-seated change in instructional beliefs and practices. According to the authors, real change will gradually surface through the collaboration and support of administrators, teachers, parents, and students.

In another study on teacher's change in practices, Dexter, Anderson & Becker (1999) designated teachers as *nonconstructivist*, *weak constructivist*, and *substantially constructivist*. The authors based their findings on the third interview with 47 teachers of elementary, middle, and high school. This third interview "examined the use of computers in teachers' instructional practices and teachers' perceptions of the impact of computers on changes they made in their classroom practices" (p. 224). The *constructivist* teachers were those who incorporated complex and qualitative judgment; they viewed themselves as facilitators, and "modeled to students by demonstrating their own learning processes" (p. 226). These constructivist teachers used "progressive teaching practices and successfully integrated technology" (p. 226). "The most often mentioned influence on teachers' changed practices was insights about their own effectiveness, gained as a result of reflection" (p. 227). This article highlighted that the reflective process through which teachers pass provided the impetus to change, not the computers per se. Dexter, Anderson & Becker (1999) found that:

The participating teachers' agency was evident as they discussed the changes they made to classroom practice over the last several years. They saw themselves as

having made decisions about how best to teach. Their experiences, local circumstances, and needs influenced the changes they made and the approaches they took. They made it clear that their changes in instructional approach were the result of thoughtful reasoning. We could describe this thought process as their construction of knowledge about what does and doesn't work in the classroom. (pp. 236-237)

Through reflection, teachers were able to make decisions about their teaching practices.

In constructing knowledge about their own teaching practices, these teachers were able to effect change in their classrooms.

### **Teacher Development and Teacher Change**

According to a study conducted by Ronnkvist, Dexter, & Anderson (2000), one-third of teachers reported feeling well prepared and that professional development activities were available to them. Barriers to using technology in the classroom were: not enough computers (78% of teachers surveyed reported this) and lack of time in their schedules (80% reported this). Professional development was found to be a key to having technology successfully integrated in schools, often, this more specialized technology instruction tends to fall on the shoulders of the computer lab technician who may have a total of two minutes a week to dedicate to each teacher. Technology leaders may not necessarily be trained to help with both technical and instructional domains of support, paired with teachers needing more opportunities to learn about using technology (Ronnkvist, Dexter, & Anderson, 2000).

By extension, the teacher change literature suggests that teachers' instructional roles may change over a period of time when they realize that their roles in the classroom

at large have changed. Deborah Ball, a mathematics teacher, believed in “developing a practice that respects the integrity both of mathematics as a discipline *and* of children as mathematical thinkers” (Ball, 1993; as cited in Bransford et al., 1998, p. 166). Teaching for understanding, a more sound method of teaching, will have long-lasting effects.

Windschitl & Sahl (2002) traced teachers’ use of technology in order to determine if technology would have any effect on instructional beliefs. The researchers found that laptops in the classroom “did not initiate teachers’ movement toward constructivist instruction.” Rather, in the case of one of the three teachers, technology served as a catalyst to move away from a teacher-centered approach in the direction of a student-centered approach (Windschitl & Sahl, 2002, p. 165). These teachers’ instructional styles were impacted in varying degrees. In closing, the authors encouraged members of the school community to first have a dialogue about goals and beliefs of a program before declaring “laptops for everyone.”

The key element to impact change remains in the hands of teachers. Teachers are the key to whether technology is used appropriately and effectively in the classroom (David, 1996). “Teaching for meaning and understanding embedded in content is necessary to achieve this goal [of reforming public education]” (p. 247). In order to have a more lasting impact on reforming education, teaching for meaning and understanding should be the focus.

## **USE OF TECHNOLOGY IN FOREIGN LANGUAGE TEACHING AND LEARNING**

### **A Brief Historical Overview**

Discontent with the audio-lingual method and the language laboratory made room for the more widespread appeal of computer assisted instruction (CAI) in the late 1960s. The introduction of CAI afforded teachers and students the option to embrace a more integrated curriculum by incorporating CAI activities into the rest of the foreign language curriculum, potentially leading to more sound pedagogical practices (Brink, 1986, p. 42; as cited in Salaberry, 2001, p. 44). However, CAI was doomed to the same fate as the foreign language laboratory, and its popularity rapidly subsided due to the high start-up cost, lack of technical staffing, the dearth of proper courseware, and the negative attitude of many teachers as to the effectiveness of CAI (Olsen, 1980, p. 345, & Dunkel, 1987, p. 252; as cited in Salaberry, 2001, p. 45). The 1970s and 1980s gave rise to the more promising computer assisted language learning (CALL). Researchers continued throughout the 1990s to look for further improvements in CALL that would allow teachers to implement certain tasks not as easily attained without the use of computers, such as drills that compared student answers to those stored in the computer. *Intelligent CALL* went a step beyond CALL and provided students with feedback that tried to emulate feedback similar to that given by a teacher. In turn, this new era paved the way for computer mediated communication (CMC) to come to the foreground, allowing students to experience a wealth of computer based interaction (Salaberry, 2001), interaction that had been somewhat limited by CALL.



## **A Review on Computer-Based Technology**

Liu, Moore, Graham, & Lee (2003) provided an extensive review on computer-based technologies conducted between 1990 and 2000. The authors highlighted and determined how computers have been used in learning and teaching. Liu et al. also outlined whether or not evidence existed that pinpointed how computer-based technology enhanced acquisition of language skills. The 10 year span under review found a plethora of articles that explored how the computer as a tool could augment language learning, particularly in the areas of reading and writing (using synchronous and/or asynchronous communication tools), leaving speaking and listening virtually unexplored. *Daedalus*, multimedia authoring software, word processing software, the Internet, and speech recognition software, were all areas broadly covered by foreign language researchers, bringing to light the pros and cons of the various options of computer based technology.

Liu et al. (2003) found that of the 70 research-based articles reviewed; only 33 provided theoretical underpinnings for their research, while 20 of the 70 articles present more substantive frameworks for analysis. Presumably, due to their explicit methodological design, these five were easily identifiable. The extensive amount of quantitative studies yielded only one (Plass et al., 1998) that examined different modes of instructional preferences, albeit highlighting the perspective of the students. Of the 70 articles, the authors were only able to identify five qualitative studies. Three of the five qualitative articles conducted their research at the college level while looking at student reactions to technology (Liu, Moore, Graham, & Lee, 2003).

Liu et al. (2003) concluded their broad review of the literature with the recommendation that more research needs to be solidly grounded in theoretical foundations. The authors also exposed that software needs to be designed based on pedagogical and design principles. The researchers added that a focus beyond anxiety, attitudes, vocabulary acquisition, and language production, should be considered; perhaps exploring areas such as speaking, listening, and culture. Finally, the call for more research to be carried out at the K-12 level was underscored. This review emphasized the need to investigate what happens when instructors are faced with the task of integrating technology into their teaching practices.

### **Uses of Technology**

In order to provide a general organizational scheme for the remainder of this section, the articles are reviewed in chronological order beginning with the oldest and ending with the most recent studies pertinent to the uses of technology in foreign language teaching and learning.

Reese, Eastmond, and Sutherland (1988) outlined the need for student-centered foreign language classrooms. The authors included in their results the observation that students viewed their experience at Utah State University as the most exciting learning experience (Reese, Eastmond, & Sutherland, 1988). In order to “capitalize” on students’ affinity for video, Liskin-Gasparro and Véguez (1990) created their own curriculum with an assortment of materials (interviews and broadcasts) in Spanish for a first year college Spanish course. The authors found success with their Middlebury College program; by

catering to students' needs they were able "to capitalize on this attraction to the visual image" (Liskin-Gasparro & Véguez, 1990, p. 37).

Secules, Herron, and Tomasello (1992) found that little research had been conducted in the area of actual effectiveness of a popular total multi-media instructional package entitled *French in Action*. The authors undertook two experiments that compared using traditional classroom methods with exercises and drills to "teacher-managed" pre-packaged videos (Secules et al., 1992). The authors postulated that "if used correctly, television can bring educational opportunities into the classroom that students can experience in no other way" (p. 480). The first experiment compared students' abilities on listening comprehension exercises that involved native speakers of French. Results from the first experiment highlighted that since the pre-packaged video materials followed a narrative flow with character development, students wished to learn more about the characters, and subsequently were exposed to more native speaker language, students "looked forward to the next lesson in order to see what happened to the main characters" (p. 488). Not only did students enjoy the *French in Action* classes more, but students also scored considerably higher in overall listening comprehension than the traditional instructional method group. The second experiment compared the two methods of teaching in order to determine if the learning of vocabulary and idiomatic expressions was enhanced due to the "contextualized presentation of the video" (p. 481). Results of the second experiment indicated that there were no significant differences between the experimental and control groups in light of the acquisition of certain

linguistic structures, in fact the authors underscored that “vocabulary was learned better by oral drill than by video” (p. 486).

DiCarlo (1994) argued that “teaching the language and not about the language means that the focus should be on the communicative functions of the language rather than on the knowledge of grammatical rules and exceptions” (p. 465). The author emphasized how video-texts such as TV commercials, talk shows, dramas, movies, sports, documentaries, and game shows can: (1) supplement and enrich foreign language curricula, (2) enhance language acquisition, (3) develop socio-linguistic competence, (4) convey and promote cultural awareness and socialization, (5) facilitate language acquisition, and (6) create an ideal medium for a natural approach (DiCarlo, 1994).

Moore, Morales, and Carel’s (1998) article on technology and teaching culture detailed the dearth of technology and the teaching of culture in the classroom. Even with the advent of technology at our fingertips, the authors argued that teachers by and large were ill-prepared to use multi media and to teach culture in the classroom. By and large, teachers of foreign languages did not make use of multi media to attempt to present culture in the most authentic manner possible. Teachers in urban areas as well as teachers of Japanese had a tendency to utilize multi media more than their counterparts. Moore, Morales, and Carel (1998) made several recommendations, but the most pertinent to the present study are: (1) teachers would benefit from courses on instructional technology, and (2) teachers of foreign language pedagogy and teachers of language should strive for “greater curricular articulation” (p. 121).

Adair-Hauck, Willingham-McLain, and Youngs (1999) conducted an evaluation of the integration of technology in second language learning at the university level. The evaluation assessed the integration of technology-enhanced language learning (TELL) through making use of a control group and treatment group over a 15 week period with students of French II. The treatment group replaced one hour of the four weekly meetings with TELL activities. The most significant findings of this research indicated that both sets of students performed equally well in listening and speaking. Students' motivation, anxiety, and perceptions of meeting their language goals were similar in both groups. However, students who underwent an intervention performed better in reading and writing. Student writing in the intervention group became increasingly more complex as the semester progressed. An unexpected finding with the TELL component, was that it promoted positive and spontaneous collaboration among students outside the classroom (Adair-Hauck, Willingham-McLain, & Youngs, 1999).

Limitations of the Adair-Hauck et al. (1999) study indicated that the TELL component needed to be integrated more carefully utilizing “more authentic, contextualized discourse” (p. 294). The authors highlighted that designing a TELL curriculum is a new task for most teachers but, “like traditional curricula, requires a sound general pedagogy” (p. 291). Teachers must develop materials combining what is learned in the classroom and lab in order to continue to enhance the learning that occurs in the classroom when implementing technology. The authors warned readers that although not having an in-person fourth class day may appear to save time; it actually

may take more time since careful planning of many steps is required. Adair-Hauck et al.

(1999) maintained that these steps:

include integrating technology-based materials with traditional materials, mastering the implementation of technology-based materials, learning how to use the hardware, troubleshooting both hardware and software, orienting students to using the hardware and software, being available to students who have technological anxieties and difficulties, adapting technology materials that fail into a “spur of the moment” traditionally oriented lesson plan, and constantly assessing student learning and the classroom/lab environments to ensure continued student success. (p. 291)

These steps provided an overall framework for instructors and program implementers to keep in mind, while designing curricula to fit the needs of students and instructors who are constantly evolving.

The Adair-Hauck, et al. (1999) study was one of the few studies found that addressed technology integration per se. TELL was evaluated in terms of its effectiveness within the program. The data was reported predominantly through the student perspective. Of particular interest for the current project were the steps outlined earlier, and one of the research questions that looked at how TELL modified roles of the teacher and students. The Adair-Hauck, et al. study illustrated that “the instructor’s energies were channeled in different directions such as evaluating, choosing, designing, adapting software, serving as consultant to students, assuring that the overall course learning objectives are being met, and that the course is an integrated whole” (Adair-Hauck et al., 1999, p. 293). The authors concluded by stating that “the examination of the integration of technology into second language teaching and learning is fertile ground for future research” (p. 295).

Bradley and Lomicka's (2000) qualitative study addressed the gap created by the preponderance of quantitative research. This study followed one French class and one Spanish class as students made a weekly trip to the computer lab to use Internet and multimedia technology (Bradley & Lomicka, 2000). Two main considerations in selecting the classes were based on the comfort displayed by the instructors of the courses and scheduling constraints. The authors employed a maximum variation sampling technique to ensure that results offered a wider range of variation within this research paradigm. Data triangulation strengthened the internal validity in this research study through conducting observations and interviews, and through document collection. The documents collected consisted primarily of student handouts. The authors conducted seven observations and followed Schuman's three-series of interviews.

Conclusions aligned with the research questions, since they detailed the learners' perceptions of their experience with technology, the types of activities engaged in, and how learners interacted with each other and with computers in the computer lab environment. The lab seemed to offer a more relaxed environment, which could have been a positive outcome as far as reducing foreign language anxiety and other affective factors; however, in this study findings indicated that students did not take activities as seriously as they would have in the regular classroom. Furthermore, the use of computers on a one-to-one basis decreased student-to-student interaction, leading to decreased collaboration. Bradley and Lomicka (2000) cautioned readers to carefully take task design into consideration when rethinking ones' goals for activities which "get information without putting it to use" (p. 363).

Kern (2000) provided a detailed description on the use of computers in language and literacy. The author explored the potential benefits and limitations of the use of computers to support language learning. Kern took the reader through an in-depth analysis of how Word processing and Hypertext were used in foreign language teaching and learning. Hypertext was demarcated as being relevant to language teaching when used in one of two ways: (1) as an infrastructure for tutorials and other instructional software, and, (2) as the architectural underpinning for the World Wide Web (Kern, 2000). Kern defined the World Wide Web as an “information system that links computer servers around the world via the Internet” (p. 229). The author also highlighted new forms of narrative through a description of *A la rencontre de Philippe*, developed by the Athena Language Learning Project at the Massachusetts Institute of Technology (MIT). The use of interactive videodisc technology provided students with the opportunity to “walk around” and explore simulated environments. However, Kern pointed out that although *A la rencontre de Philippe* is very popular, it was limited by being a closed system that offered very little communicative exchange.

Kern (2000) further detailed the pros and cons of synchronous communication through local networks. Benefits that arose from this form of communication were: (1) more “floor time” for every student, (2) careful thought while writing, (3) the option to voice thoughts at will, and (4) the access to a transcript for individual and full class review. Furthermore, connectivity to the Internet also afforded the availability of intercultural exchanges that allowed students to learn from each other around the world. Global communication of this sort promoted increased interest and motivation in learning



the target language, since “a ‘real’ audience” with “letter exchanges also motivate learners to write clearly and accurately” (p. 252). However, Kern also warned readers that electronic communication “seems to foster bold, sometimes confrontational messages more than normal written correspondence...students sometimes do need guidance in formulating appropriate messages” (p. 255). Kern (2000) cautioned readers that activities still need to be under instructor guidance and supervision, in order to ward off cultural and linguistic miscommunication.

Instructors found that it was challenging to make e-mail use interesting and worthwhile for students. “The novelty of electronic pen pal exchanges can quickly fade, and without a teacher’s guidance students sometimes lose interest after a few sets of messages” (Kern, 2000, p. 257). However, electronic mail did also render a series of benefits: contact with real people, motivation, metacommunicative awareness, critical thinking, and better understanding of one’s own culture. Kern concluded that computers were once thought to be a means to replace certain functions performed by teachers, but later computers became of far more pedagogical value when the use of computers was thoughtfully guided and structured by teachers (p. 259).

Herron et al. (2002) examined if a pre-viewing device, called an *advanced organizer* (AO), and the use of video would improve intermediate level French students’ ability to learn foreign culture. In their conclusion, the authors stated that if the students were motivated through the use of video, then they may have more freely recalled information (Herron et al., 2002). The first recommendation the authors gave for further

studies was to “measure students’ motivation, anxiety, or behavior when using video to learn about culture” (p. 51).

The Modern Language Journal’s summer 2005 issue contained several contributions in the area of technology in the classroom. One article detailed the use of the web as a research source that addressed implications for L2 writing (Stapleton, 2005), while another article traced the (mis)communication that could occur in environments that used telecollaboration as a means of communication between intermediate university students in Germany and the United States (Ware & Kramsch, 2005). Germane to the current study was a qualitative study on the power, politics, and pecking order that occurred in a foreign language department that revolved around technological innovation (Davis, 2005). The technological innovation in this case, was the creation of a Web-based video program with grammar for lower division French courses.

Davis’ qualitative case study was conducted while he was on a one year visit to a large Research I institution. Davis collected data during the year he was at the university. He conducted informal interviews with 12 informants over the course of the year. Informants in the project were chosen through maximum variation sampling in order to collect data from “information-rich” cases. Davis’ analysis was articulated through the lenses of both Bourdieu and Jordan. Through developing a theoretical framework that encapsulated the work of two theorists, Davis would have a wider lens to guide his analysis. Findings from this one year study pointed to a shift in academic power subverting the “game” of tenure promotion. At the same time, Davis offered suggestions for consumers of large-scale technology projects. Davis concluded his article by stressing

that “technology does not function in a vacuum; it exerts multiple influences upon human actors in real-life contexts.” Davis argued that “it seems obvious that such complexity can be understood best through the collection and examination of qualitatively thick data” (Davis, 2005, p. 175).

Davis’ description detailed the power relations that took place in a Research I institution surrounding the creation of a Web based video program for a lower division foreign language program. This article shed light on the importance technology holds in an institutional setting with the various people that comprise a foreign language department; from the graduate students who teach the lower division courses to the college dean in charge of policy implementation. Davis invoked more research that could unearth more “rational and humane solutions to change in postsecondary institutions” (p. 175). Davis did not address what happened to the instructors as they integrated, or attempted to integrate the Web-based video program into their existing teaching practices and what re-conceptualizations may ensue when coping with, and being confronted by program innovations.

## **TECHNOLOGY INTEGRATION IN FOREIGN LANGUAGE EDUCATION**

The review of literature revealed a handful of articles that considered the integration of technology in second language education. Salaberry’s (2001) article gave a complete and clear retrospective on the use of technology in second language learning and teaching and asked an important question: “How can new technologies be successfully integrated into the curriculum?” (p. 39) In addressing this question,

Salaberry claimed that “the success of a technology-driven activity will likely depend as much, or more, on the successful accomplishment of pre- and post activities than on the technology activity itself” (p. 51). Salaberry underscored the importance of carefully considering the goals and objectives of each course and of the overall program.

A prevalent view found in the literature on technology integration in foreign language education (FLE) was that “practitioners tend to assimilate the use of new technologies to prevailing educational practices” (Crook, 1994, p. 13; as cited in Salaberry, 2001, p. 50). Assimilating new technologies without changing methodology, curriculum, or simply views on foreign language education would simply lead to a *technologized traditional classroom* (Zhong & Shen, 2002). Zhong & Shen (2002) argued that:

Technology which has not affected the ecology of the classroom or the established patterns of behaviour of both teachers and students, serves obviously as an add-on or a magic wand for the teacher-magician to present teaching materials in electronic garb...The process of teaching and learning has remained unchanged within the traditional model in the computerized environment. (p. 46)

Technology in the classroom may not necessarily move instruction, and subsequently the learning environment, into new directions. The authors found the need for classroom instruction “to include more tasks that help facilitate a more interactive process and allow the learner to develop more learner autonomy” (p. 50). Zhong & Shen supported collaboration among curriculum writers, practitioners, teachers, and students so that a reflective process could begin that would generate a push towards creating and implementing curricular innovations.

Bradley & Lomicka (2000) underscored that the current use of technology did not realize the full communicative potential that could otherwise be expected in the foreign language classroom. Salaberry (2001) further emphasized that the success of pedagogical activities depended on the choices made and objectives projected by teachers when implementing technology in the foreign language classroom. Similarly, Bax (2003) argued that the computer would finally be integrated into the curriculum when “technology becomes invisible, embedded in everyday practice and hence ‘normalised’” (p. 23).

Garrett’s (1991) article remains one of the seminal contributions to the field of foreign language education in terms of media, technology use, and teacher preparation for foreign language classrooms. Garrett emphasized the need for technology to be integrated into the curriculum to the point that it became seamless and invisible, as later underscored by Bax (2003). Garrett (1991) also pushed for an integration of all areas within the curriculum itself, bringing together areas of literature and language. Garrett and Kramsch (1995) argued in support of narrowing the divide that was prevalent in the foreign language curriculum, but also in the structure of language and literature departments. Garrett (1991) maintained that:

The most important potential of technology is for *integration*. We are concerned about the tendency in language education to see the teaching of language and culture as separate, even if complementary, but with video we can present language in its cultural context. Language and literature are often separated in our curricula, and learners often experience a difficult transition from reading pedagogical prose to reading authentic texts...the computer and interactive technologies will allow teachers to select materials of all kinds, support them as learners’ needs dictate...(p. 95)

Garrett (1991) invoked her readers to answering this call for integration in order to help bridge the gap in the curriculum and the gap that technology's utility and purpose leaves in the classroom.

### **Contrasting Technology Integration Arguments**

Two main theoretical arguments arose surrounding the current state of technology integration within foreign language education. Mark Warschauer (2000) determined that three stages of CALL existed, that corresponded to overlapping time frames: Structural CALL (1970's – 1980's), Communicative CALL (1980's – 1990's), and Integrative CALL (21<sup>st</sup> Century). Warschauer urged readers to recognize that the progress of CALL depended on the evolution of the computer. “Technology itself does not *determine* human behavior, such as how we teach. However, it does create the possibilities for new forms of behavior and of education” (Warschauer, 2000, p. 1). Table 1 illustrates Warschauer's (2000) perspective on technology integration:

TABLE 1

Three Stages of CALL

Stage	1970s-1980s:	1980s-1990s:	21 <sup>st</sup> Century:
	Structural CALL	Communicative CALL	Integrative CALL
Technology	Mainframe	PCs	Multimedia and Internet
English-teaching paradigm	Grammar-Translation & Audio-Lingual	Communicative Language Teaching	Content-Based, ESP/EAP
View of the language	Structural (a formal structural system)	Cognitive (a mentally-constructed system)	Socio-cognitive (developed in social interaction)
Principal use of computers	Drill and Practice	Communicative Exercises	Authentic Discourse
Principle Objective	Accuracy	And Fluency	And Agency

(Based on Kern & Warschauer, 2000; Warschauer, 1996; Warschauer, in press)

Warschauer proposed adding another principal objective for the Integrative CALL of the 21<sup>st</sup> century; *agency*. Adding agency to accuracy and fluency in language learning, would create the sense of empowerment for students. “Agency has been defined as ‘the

satisfying power to take meaningful action and see the results of our decisions and choices” (Murray, 1997; as cited in Warschauer, 2000, p. 6). Furthermore, agency was construed as “the power to construct a representation of reality, a writing of history, and to impose reception of it by others” (Kramsch, A’Ness, & Lam, in press; as cited in Warschauer, 2000, p. 6).

A more recent standpoint held by Stephen Bax (2003), offered a critical examination and reassessment of the history of CALL. Bax put into question Warschauer’s three stages, or as he termed them, three phases of CALL. Bax argued for a re-examination of Warschauer’s phases and proposed three new categories that addressed the uses of technology in education: Restricted (1960’s – 1980’s), Open (1980’s – present), and Integrated CALL (present – future). The primary points of contention between Bax and Warschauer were in the choice of terminology between *Integrative* and *Integrated* CALL, and where the current state of integration actually lay. Bax also argued that Warschauer did not refer to the chronology of his stages alongside the uses of technology in a consistent manner; however, Warschauer clearly mentioned that there were three stages that did not fall into neat timelines. Bax argued that this was ambiguous; underscoring that if they were historical phases, then it would not be possible for the three phases to coexist today.

Bax claimed that most instructors and institutions operated within Open CALL, with some manifestations of Restricted CALL being evident. Bax’s new categories refer not only to a theory of learning, but also to the activity types and software available. Bax argued that Integrated CALL did not exist to any significant degree today, in sharp



contrast to the view held by Warschauer and Healey (1998; as cited in Bax, 2003). Instead, Integrated CALL represented an end goal toward which we, as educators and policy makers, should be striving. The manner in which this would be achieved is through Bax's 'normalisation' process. Bax (2003) argued that "Most importantly, CALL will be normalised when computers are treated as always secondary to learning itself, when the needs of learners will be carefully analysed first of all, and then the computer used to serve those needs" (p. 24). Serving the needs of the learners and the instructors must come first before blindly using technology for the sake of technology.

### **Two Case Studies**

Two qualitative studies were found that followed an in-depth analysis of technology integration in foreign language education at the university level. Burnett's (1999) case-study highlighted the multiple facets of integrating computers into current instructional practices, from the perspective of one foreign language TA, Leslie. Leslie was a seasoned private school teacher of French, who found herself in the midst of attempting to incorporate computerized lessons into her already existing teaching philosophy. Three hour-long interviews were conducted and transcribed, lesson plans were collected, and seven observations were conducted over the period of a spring semester. Results indicated that Leslie was "unwilling to reshape her teaching style to fit the computer; the computer must be redefined to fit her needs as a teacher" (p. 286). Leslie continued to question the program designed to integrate technological innovations, but did not question her own teaching paradigm. Burnett (1999) argued that:

...evidence in this article suggests we cannot assume that because the technology exists, its potential will be realized. An important implication is that administrations should not try to draw conclusions about the role of technology until they are sure that technology is working and being used in the most productive and educational ways possible. (p. 291)

This article concluded with a call for more teachers' voices and life histories that detail teacher experiences. These accounts would help form a more complete picture of technology integration, to further highlight teacher's belief systems, and to describe their decision-making processes.

Osuna's (2000) qualitative study attempted to capture the tension that occurred when a teacher incorporated technology into the curriculum in an advanced Spanish class. Data collection instruments consisted of student journals, researcher observations, conversations held with participants, and pre-post surveys administered at the beginning and end of the quarter. The course sought to refine students' performance in all language skills before engaging in more writing-intensive classes, and as such, was designed to bridge lower division language courses and upper division literature courses. After a peer-editing writing process surrounding the theme of family in the Hispanic culture, students were asked to research a cultural topic of choice using the Internet, write a five to seven page paper, and present their research using *PowerPoint* (Ppt) to the class.

Osuna divided her findings into three different sets of factors: (1) [meta]cognitive factors, (2) affective factors, and (3) social factors. *[Meta]cognitive* factors included elements that would activate prior knowledge, strategic thinking when approaching a decision-making task, focus on task, and organization and evaluation of information, for the most part facilitated through the use of Ppt. *Affective* factors included motivation and

anxiety. Motivation increased since the “chore” of the research was turned into a “great” experience (p. 337). Some students grappled with anxiety and chose to work in the computer laboratory where technical support was available to them upon request. Students developed filter lowering mechanisms to cope with their anxiety levels in the laboratory, when all else failed, they powered the computer off. *Social* factors included interaction through student communication with others via email, websites, chat rooms and with each other; as well as collaborating with each other and computer laboratory staff during the peer writing assignments.

Vygotsky’s sociocultural theory was used as the theoretical framework to guide the analysis. The course instructor, peers, and laboratory staff all provided assistance to each other, “more capable peers were assisting less capable ones travel the distance to independence in the ZPD” (p. 339). Findings of this study supported the notion that learning can be assisted by technology, only when careful thought and planning is put into the projects and the social milieu, and when appropriate theories of learning are used in concordance with class objectives.

## **CHAPTER SUMMARY**

“Successful integration of technology will require new perspectives and new theory; we need to rethink many of the language activities we ask students to engage in before we bother to computerize them” (Garrett, 1991, p. 92). Many technology-based articles have been written investigating the effectiveness of multimedia packages, software, writing tutors, written communication via the Internet, and reading

comprehension. Typical research questions address the gains students make in terms of their linguistic abilities. Other areas of research revealed the types of multi media packages used, while other researchers highlighted student enjoyment of the use of modern technologies in the classroom.

Articles over the last ten years served as a reminder that special attention must be given to pedagogical implications, keeping in mind that particular goals and standards need to be in place before deciding on how to best use the tool, in this case, the smart classroom. A few authors discussed deep-seated implications underlying how foreign languages are taught in the attempt to redefine conceptions in this era of a technological revolution (Blyth, 1995; Kramersch, 1995; Noblitt, 1995). With the abundance of quantitative studies available to researchers and instructors, the current project will add to the small yet existing body of work, through delving deeper into individual cases to shed light on what happens when instructors integrate technology into the curriculum. The focus on the conceptualizations or re-conceptualizations of Spanish instructors while incorporating a new tool into their existing repertoire, will contribute to an area that has not yet been widely explored.

## **CHAPTER 3: Methodology**

### **INTRODUCTION**

This qualitative multiple case study recounts the perspectives of the four participants. In this chapter I state the research questions, and at the same time I anchor myself as the researcher and the primary tool of data collection. I give a detailed description of the methods used to address the research questions, in order to describe the process by which technology is integrated into existing curricula by lower division instructors of Spanish at The University (TU), a large research public University in the southwestern United States.

I organized this chapter as follows: (1) the research questions, (2) operationalization of terms used in research questions, (3) the researcher, (4) the pilot study, (5) the setting, (6) the lower division program, (7) the participants, (8) access to the cite, and (9) data collection. Validity through triangulation is addressed in the section pertaining to data collection. The data collection section begins with the presentation of a data collection chart, followed by a description of the four data bases from which I collected data. The data stems from the following four sources: (1) interviews, (2) observations, (3) reflections, and (4) document collection.

### **RESEARCH QUESTIONS**

The research questions stem from an overarching question which asks: What happens when instructors in smart classrooms integrate technology into their teaching of

the basic levels of Spanish at the University level? In an attempt to clarify some of the underlying issues presented by technology integration in smart classrooms, the following three research questions arose:

1. How might instructors conceptualize or re-conceptualize their teaching practices when integrating technology into their curriculum?
2. What challenges do instructors face when integrating technology into their curriculum?
3. What advantages do instructors believe derive from using technology in their smart classroom?

### **Operationalization of Terms**

The examples stated in setting boundaries around the terms used in the research questions are drawn from several sources. Examples were provided by the literature on technology integration and the implementation of technology. My participant in the pilot study conducted in the spring of 2005 also provided some data to assist in the operationalization of terms used in the research questions.

### ***Technology Integration***

Technology integration in education and specifically in foreign language education has been addressed in chapters one and two. What ensues, is how technology integration in foreign language education is operationalized and used in this project. Salaberry's (2001) definition of technology integration lent itself to adoption since he

connected the activities carried out in the classroom, with the caveat that one of the activities revolves around a technology-driven element. This definition is broad, thus allowing for the need and space for instructors and/or programs to add their understanding and vision of integration. Hence, what follows are possible instances of what technology integration may look like in the institution under investigation for this research project, in both English and Spanish:

- an instructor mentions the Internet, computers, Blackboard (Bb), among other possibilities, in class with instructional purposes, (e.g., the instructor refers to the lesson plan or daily instruction posted on Bb, not “Do you like to surf the net?”);
- electronic mail (email) communication is mentioned or conducted with some element surrounding the class for instructional purposes (e.g., clarification of an assignment, receiving or sending an assignment, announcements, not “Do you use email?/Do you like to email?”);
- email, Internet, World Wide Web, CD-ROMs, DVDs, software is written down, mentioned, or used in class or in class communication with instructional purposes (e.g., the Spanish department’s online Spanish Proficiency Exercises known as “Pass-offs” at TU are used by the instructor in some capacity connected with lesson goals, not an email sent to meet for coffee); and,

- Bb is used by the instructor for any of its offerings (e.g., grades, document sharing, external links, online quizzes, announcements, messages, discussion board, among others).

### *Smart Classrooms*

For the purposes of this study, I utilize the second basic smart classroom set up described by the Smarter College Classroom Home Page; which is a smart plug-and-show presentation classroom. This type of classroom set up offers the following:

- Ceiling mounted LCD projector and projector screen
- Resident networked computer w/CD and Zip Drive
- Laptop connections for Mac and PC
- Sound system
- Wireless mouse
- Touch screen control
- DVD capability
- Stereo sound
- Microphone
- Document camera
- Slide projector
- USB
- VCR
- WebSpace



## *Challenges*

The term *challenge* is understood as an obstacle or hurdle that an instructor must overcome in order to find a resolution. I am aware that in some instances, a challenge may not be overcome. A challenge could be seen in a positive or negative light depending on the individual. The literature on technology integration refers to some challenges that instructors and/or programs may be confronted with, such as::

- finding time to enroll in classes or workshops and/or prepare him/herself in some way to acquire the skills needed to integrate technology, e.g., a course offered by the University on Dream weaver requires two four hour sessions (Garrett, 1991);
- once having enrolled in a class or workshop, being able to make the connections with the material and goals of the target course that needs to be delivered, i.e., as stated in the literature, many examples exist in Science, Math and Social Studies on integrating technology into the curriculum, but examples on how to connect the technology-driven element with the goals in a Spanish class are few and far between (Burnett, 1999; Kramsch, 1995; Salaberry, 2001);
- finding additional time to allot to the planning of the lessons that need to be executed taking into consideration the technology and the goals of the course, e.g. Andrea shared that it took her four hours to plan/develop/proof /execute the PowerPoint for one 50 minute class (Andrea, Interview 2, p. 3);

- being able to find personal resources or reserves when faced with an affective factor during the implementation or planning of a technology-driven activity, e.g. Andrea felt anxious and insecure about having to execute her PowerPoint presentation in class, but managed to “keep her cool” by laughing and joking when having trouble lowering the projection screen and turning on the media console (Andrea, Observation 2, p. 1);
- finding an abundance of material available in the target language (TL) of Spanish, but then needing to sift and sort through all the materials to find the most appropriate and authentic materials for the lesson and level (Kramsch, 1995; Salaberry, 2001);
- being able to rely on ones own experience and prior planning to fall back on a Plan B if Plan A fails due to infrastructure difficulties, e.g., the power goes out, or Blackboard (Bb) is down for the day;
- Students become disengaged and hostile whenever a technology-driven activity is conducted in class, e.g., students slump, guffaw, or say something when the projector screen is lowered (Bradley & Lomicka, 2000);
- The instructor must come to terms with the new physical obstacles present in the class, e.g., Andrea did not like feeling “stuck” behind the media console (Andrea, Interview 2, p. 6);
- in having instant accessibility to grades available through Bbs grade book online, instructors are faced with the need to handle more student demands and inquiries, assuage student feelings about their grades, and face disgruntled

students every time an unfavorable grade is recorded, e.g. from pilot interview two, Andrea shares that she recorded a 9 instead of an 89 for a student and was faced with an outraged student, together they figured out where the mistake had been made, after it had been brought to the supervisor's attention (Andrea, Interview 2, p. 4); and,

- despite instructor effort, time, and preparation, delivery of the material has not changed and is not being enhanced by technology, classes result in a “technologized traditional classroom” (Zhong & Shen, 2002).

### ***Conceptualization or Re-conceptualization***

A conceptualization or re-conceptualization of teaching practices could be a mental construct that may result in a physical action. I understand the conceptualization of teaching practices in terms of how teachers envision and plan their lesson and goal for the class and/or course. A re-conceptualization is of particular interest if instructors find that they need to re-think how they have conceptualized earlier goals or lessons in light of the integration of technology. A conceptualization is more likely to occur in the manner the instructor chooses to carry out the lesson; however, a re-conceptualization involves more critical thinking, inasmuch as the instructor realizes that the initial conceptualization needs to be re-thought to carry out the lesson, in particular in light of the smart classroom as the unit under study. The examples drawn are from the literature on teacher change with technology integration:

- the instructor realizes that his or her stance and/or physical position in the classroom must change to accommodate new technologies, e.g., if students have laptops, they could be checking email, so the instructor needs to circulate more often and stand in the back of the classroom instead of in front of the classroom (Windschitl & Sahl, 2002);
- the integration of technology is leading the physical layout of the class to change, e.g., desks need to be placed in a more collaborative manner, facing each other, or inwards, as opposed to the more traditional rows (Adair-Hauck et al., 1999);
- the integration of technology may initialize instructors towards a more constructivist teaching environment (Windschitl & Sahl, 2002); and,
- instructors need to carefully link all aspects of the lesson to connect the five foreign language skill areas with each other and a technology-driven activity, as opposed to teaching the skill areas separately, e.g., looking at a clip or video about the rain forest in South America and discussing it in small groups bringing together several skill areas; as opposed to having students read a passage, answer questions, but not connect with culture, vocabulary acquisition, or grammar (Adair-Hauck et al., 1999; Kramsch, 1995; Salaberry, 2001).

## *Advantages*

Advantages are understood as comprising an element that is seen by the instructor and the researcher in positive standing and that may end in favorable results, in some views termed as successful. Advantages can be concrete elements such as instructors believing that technology:

- saves time in many aspects of the planning and execution of the class, e.g., the Grade book offered on Bb helps instructors manage time more efficiently than having to always calculate and weight grades with a calculator;
- offers more accessibility for instructors and students, e.g., students can easily and frequently check their grades on Bb, turn in assignments in the digital drop box, and download and/or print class documents at their will;
- saves money for instructors and students, e.g., instructors can load all course documents on to Bb saving the instructor and department the cost of making copies, and potentially saving students the cost of printing if they simply download all documents onto their laptops, flash drive, CDR, among other devices;
- offers more stimulating, engaging, and motivating classes for instructors and students, e.g., instructors look forward to delivering a “cool” class with video and music that they know their students will relate to, giving them satisfaction as students “perk up” when the screen lowers (Chiquito et al., 1997; Garza, 1996; Liskin-Gasparro & Véguez, 1990; Reese et al., 1988);

- can assist instructors in improving students' exposure to the Spanish speaking language and cultures, e.g., instructors can provide many examples on the Internet, with music CDs, Spanish language films and/or videos that will expose students to a wealth of authentic material that will aide in cultural understanding and help with pronunciation (Garza, 1996; Herron et al., 2002; Stapleton, 2005); and,
- leads to more spontaneous collaboration among students, leading to a more student-centered environment (Adair-Hauck et al, 1999).

## **THE RESEARCHER**

### **Researcher's Background**

I am the researcher for this study. I am a female and currently enrolled as a doctoral candidate in Foreign Language Education at The University (TU) in the southwestern United States, the same institution in which this current research project was conducted. I am now an Assistant Professor of Spanish in a Modern Language Department in a public university in the northwestern United Sates. In the past I have taught Spanish in the same department at TU, in which I collected data. I first became interested in exploring technology integration in smart classrooms upon receiving my first teaching assignment in a smart classroom.

## **My Responsibility as Researcher**

My primary interest in the integration of technology in the foreign language classroom does stem from the ease and facility that global communication offers the world in many realms. I believe that having access to modern technologies does impact how we communicate and further impacts teachers' existing practices and beliefs about teaching foreign languages. Age, gender, race, education, language(s) spoken, socio-economic status (SES) are all factors that may impact a qualitative study, when the researcher is the primary tool for data collection. Age, gender, race, and SES did not have any bearing on the interpretation of data for the current research project. Although the possibility exists that some of these factors may resurface at a given time; if that were the case, appropriate measures would be taken.

Education and languages spoken do come into play on how I was perceived by my participants. As a bilingual individual, with a non-discernable accent in Spanish and English, I was able to establish a more immediate connection with my participants. The native speaker (NS) of Spanish who may possess a heavier accent in English might feel more comfortable talking and sharing his/her experiences with someone who also speaks their native tongue fluently, and the same would hold true for the English NS. The same factors also held true when seen in light of my emphasis on education as a course of studies. I may have been perceived as the person who was highly motivated to teach and plan foreign language classes, due to my passion for teaching and interest in using technology to enhance my teaching. Some participants may have known this about me

and may have attempted to provide information that would place them in a more favorable light.

Finally, my status as a graduate student and instructor, interested in technology integration in foreign languages, hired from another department to teach in the Spanish department brought with it some trade-offs. On the upside, participants may have been more willing to share information with an “outsider” who was on their level (i.e., a fellow graduate student in pursuit of a doctoral degree). As a relative outsider, participants may have felt free to vent their frustrations, but, on the other hand, may also have glorified the department. On the downside, instructors may not have aired all of their experiences for fear that I was not a trusted individual from their own department. Since I was aware of the personal experiences I brought to the current research project, and since I was fully aware of my position as primary tool for data collection, I undertook this project with integrity, caution, and full responsibility for reporting all possible sources of bias.

As the primary investigator for this research study, I aimed to adopt a stance of *empathetic neutrality*. *Neutrality*, according to Patton (1990) means that “the investigator does not set out to prove a particular perspective or manipulate the data to arrive at predisposed truths” (p. 55). *Empathy* develops as a result of having continued contact with the participants through interviews and observations of the participants in their environments. “Empathy involves being able to take and understand the stance, position, feelings, experiences, and worldview of others” (p. 56). Patton further argued that the above terms may seem to be contradictory when used in conjunction with each other;



however, empathy is a stance towards the people, while neutrality is a stance towards the findings.

## **THE PILOT STUDY**

A pilot study was conducted during the spring 2005 semester in order to test the interview guides and to develop an observation guide. As the primary investigator for the project, and primary tool of data collection, I selected a colleague that shared my workspace on the top floor of Peterson Hall (name given by researcher) after IRB permission had been granted. When approached, Andrea (a pseudonym) agreed to be interviewed three times and observed twice and signed the consent form. As a result of the pilot study, I realized I needed to develop clear criteria for participant selection before data collection in the fall of 2005 began. Since Andrea was a self-confirmed Luddite, and in light of her distaste of modern technologies, she was not able to provide the type of data needed to address the research questions. Inasmuch as Andrea disliked using technology, she did make use of PowerPoint (Ppt) during several classes for data collection of her Master of Arts report in Spanish Linguistics.

In conducting interviews with Andrea, we both felt that the interview guides were too long and did not address the issue at hand in a timely fashion. This became clear when the participant expressed that I was finally asking her about “technology questions.” In consultation with my former dissertation supervisor, a classmate in the doctoral seminar, the experience gleaned from the two observations conducted, and the feedback provided during the proposal meeting, the number of observations agreed upon

was five. Five observations were deemed sufficient to paint a full picture of technology integration as experienced by instructors of lower division Spanish. The final experience learned from conducting the pilot study, was that IRB approval did take a considerable amount of time, something that would need to be factored in accordingly when filing IRB approval paperwork for the dissertation.

## **THE SETTING**

The setting for this research project was the state-of-the-art facilities that comprised the Spanish Department, which was spread across buildings, Peterson and Thornton Halls (names are fictitious). Spanish courses were also taught in surrounding buildings in order to accommodate all sections of Spanish. Peterson and Thornton Halls, as any building on the campus, must be shared among the respective colleges at The University (TU). One of the participants taught in Peterson Hall, whereas the other three participants taught in Everett Hall, across from the Spanish Department. The new facilities were connected by a series of corridors that led to administrative offices, computer laboratories, smart classrooms, auditoriums, and the Instructional Technology (IT) help desk. There were several computer laboratories reserved for student use, as well as other computer laboratories reserved for instructors' classes.

Peterson Hall contained seven smart classrooms that allow for a 21-36 maximum student capacity. There was also a small lecture classroom fully equipped, but only allowed a maximum capacity of 14 students. Thornton Hall housed eight smart classrooms that varied between 23 and 42 for maximum capacity of students allowed per

fire law restrictions. There were two auditoriums in Thornton that seated a maximum of 100 and 199 people respectively. Everett Hall, the oldest of the three buildings, contained 13 smart classrooms with varying seating capacity of 30-70 students. The lower division instructors that participated in this study taught in the smaller classrooms, since the enrollment for the fall 2005 semester was capped at 24 students per section. What follows is an image of one of the smart classrooms in Peterson Hall, a description of equipment in the classroom, an image of the console, and a description of the console:



Illustration 1: Photograph of a smart classroom in Peterson Hall

This classroom has one data projector, one screen, and the smaller size media console. It does not have a slide projector or microphone. The media console has the normal complement of A-V equipment: Two Computers, a VCR, and a Document Camera.

What follows is a photograph of the media console that approximates the media consoles available in Peterson, Thornton, and Everett Halls in the Spanish Department.



Illustration 2: Photograph of a media console in a smart classroom

The touch panel controlled console is the presenter's interface with the computers and multimedia equipment in the room. It houses both MacOS and Windows computers, a Fast Ethernet web connection, accessible USB ports, a Document Camera, microphones, and a VCR. A personal laptop computer, as well as other user provided AV equipment, may be easily and quickly connected.

## THE LOWER DIVISION PROGRAM

Lower division courses comprised the first four semesters of language instruction and, in increasing level are as follows: Spanish 1, Spanish 2, Spanish I (Intensive Spanish 1 and 2 in one semester), Spanish 3, and Spanish 4. In order to be eligible to teach one of these courses, GSIs must also have taken a methods course that was similar in design to that offered in the department, or they could have enrolled in the methods course offered by the department.

### Textbooks

The lower division language program emphasized a communicative approach to language teaching and adopted the textbook series *Puntos de partida* 7<sup>th</sup> edition by McGraw Hill and Company for the first three levels of instruction (Spanish 1 – Spanish 3). The *Puntos de partida* textbook series claimed to be a communicative and interactive approach to language teaching and is popular among many lower division Spanish programs in the United States. The *Puntos de partida* description on McGraw Hill's main site is as follows:

As the best-selling introductory Spanish textbook in the United States, *Puntos de partida* has long been a favorite of instructors across the country. For this new edition, the authors and editors of *Puntos* have turned to those very instructors to help formulate a plan that would respond to the needs of a changing discipline. We reached out to more than 160 students and instructors across the country, and the result is a thoroughly revised edition both in appearance and content. *Puntos* continues to provide the solid foundation in communicative language development that has become its hallmark. ([http://highered.mcgraw-hill.com/sites/0072873949/information\\_center\\_view0/](http://highered.mcgraw-hill.com/sites/0072873949/information_center_view0/))

Several ancillaries accompanied this textbook, mainly: overhead transparencies, the *Puntos* CD-ROM, Laboratory Manual with CD-ROM, and an online learning center. The *Puntos* CD-ROM was available for student practice in all student and instructor computer laboratories and offered the availability to easily connect to the World Wide Web with their icons on every page. The laboratory manual exercises were available either through a connection to the university's online archival space, or through the textbook company's website with access codes made available to instructors and students.

The fourth level of instruction utilized the *Punto y aparte* textbook, also by McGraw Hill and Company. *Punto y aparte* was supplemented with the student audio and CD-Rom programs. The company description for this textbook was as follows:

This best-selling intermediate level Spanish textbook was widely embraced by the market when it first published in 1999, ushering in a new approach to instruction. The unique methodology, which emphasizes seven communicative goals highlighted through icons, has been praised by professors and students as an original way to review and refine language development at the intermediate level. ([http://highered.mcgraw-hill.com/sites/0072496428/information\\_center\\_view0/](http://highered.mcgraw-hill.com/sites/0072496428/information_center_view0/))

The textbook does not prescribe to following traditional grammar instruction, instead the textbook is organized around seven *puntos clave* (Translation: key points) that cover the more pertinent of the grammatical structures covered in other intermediate books. The key points are explained in the back of the book in the *páginas verdes* (Translation: green pages).

## **Other Resources Available to Instructors**

As outlined above, the McGraw Hill and Company *Puntos de partida* and *Punto y aparte* series had been chosen by the department. As evidenced by the above descriptions, this series underscored its interactive capabilities, having evolved with the changing needs of the profession, while emphasizing communicative goals for teaching. Not only was this series available to all instructors in the instructor's edition, but instructors were encouraged to check the following items as needed out from the department's language office: overhead transparencies, video, test bank, supplementary materials, lab manual, audio program transcript to accompany the lab manual, and CD-ROM. Upon receiving the appointment as a Spanish instructor and being linked to a course number, courses were automatically linked up to the Blackboard (Bb) system that many institutions of higher learning use.

### ***Blackboard (Bb)***

Blackboard (Bb) served as a means for instructors to conduct paperless classes when possible, at the same time, keeping the departmental expenditures at a minimum. Bb was deemed by most to be user friendly and is thus used in many institutions of higher learning. The University (TU) also offered workshops to help use the system, particularly when the system was updated. At the time of data collection, Bb had many tabs to help instructors organize their materials, such as: syllabus, documents, class assignment, and external links. Bb also provided a discussion board and chat options to instructors and students. Finally, Bb offered a GradeBook that instructors could use to

record grades, but at the time, the use of Bb for grades was at the discretion of each instructor. If the course supervisor had linked to each instructor's page as a "course builder", the announcement tab served as a means to inform instructors and students of events. The Spanish 3 supervisor in the spring of 2004 used the announcement message system on Bb to announce workshops available to instructors on campus, some compulsory and others optional. The lower division coordinator, who filled the new position in the fall of 2005, linked all instructors to the Bb system and used it as a venue to communicate with instructors, post information regarding workshops, recommend readings in methodology, make announcements, and elicit feedback from instructors.

### ***The Departmental Listserv***

The departmental listserv was available to all professors, lecturers, and graduate students in the department. Through this listserv, instructors were informed of the various workshops and lectures available on campus. A daily mailing was made, usually by the graduate coordinator, informing users of the day's options. Another regular listserv mailing that occurred was one announcing additional courses instructors could take for some credit to hone their instructional skills (e.g., how to create a course website).

### ***The Instructional Technology (IT) Help Desk***

The IT help desk was a resource that was available to all instructors. The help desk was where instructors went to pick up the password and key to use their media



consoles in their classrooms. Instructors could check out various forms of equipment for use in their classrooms (e.g., digital video cameras, audio recorders, tripods, scanners, digital still cameras, laptops, etc.). Lastly, the IT help desk support network was also there to help instructors answer questions they may have about equipment, or to help solve problems the infrastructure may present, either with a visit in person, an email, or a telephone call.

### ***The Computer Laboratories and Staff***

The computer laboratories and staff were also available for all instructors to make use of, if they had signed up. The Spanish 1, 2 and I levels had one compulsory laboratory meeting a week; based on this need, there were laboratories specifically designated per language level. Instructors of other levels had to sign up with the language laboratory director in order to reserve laboratory time for their classes; however, this was left to the discretion of course instructors. Other computer staff consisted of the following two people: (1) the systems analyst whose primary responsibilities were to maintain the departmental language computers, GSIs desk computers and printers, handle software upgrades, and (2) the computer programmer who maintained faculty and staff computers, servers, printers, handled software upgrades, and provided technical advice.

### ***Online Tutorials***

One of the department's at TU had received funding to have their GSIs produce online tutorials in their IT laboratory. These online tutorials were available free of charge to the world and provide detailed information on the websites with videos and printable handouts that guided students through some of the following software programs:

Dreamweaver, iMovie, Photoshop, Mozilla, Excel, PowerPoint, to name just a few.

### **THE PARTICIPANTS**

As the primary tool of data collection, I attempted to recruit up five instructors of lower division Spanish in the Spanish Department as participants for this research study, as recommended by my committee during the proposal meeting in the summer of 2005. As part of the current research project, participants must also have taught prior to the semester of data collection in order to contribute data on the re-conceptualization of existing teaching practices. During the proposal meeting, several members recommended that an instructor who taught both a section in a smart classroom and one in a traditional non media classroom would be a great asset in addressing the first research question on the re-conceptualization of existing teaching practices. Two members of the committee also recommended that participants from only one level should be included in the study to reduce variability. A committee member recommended that the Spanish I or Spanish 4 levels should be used. The Spanish 4 level was chosen for four reasons: (1) instructors of Spanish 4 generally teach two sections and this would heighten the chance to find an instructor who taught in two different types of classrooms, (2) the researcher also taught

that level and would be able to understand and analyze the data in more depth, (3) instructors of Spanish 4 must have prior teaching experience in the lower division program and would further assist in addressing the research questions, and (4) instructors of the Spanish 4 level may experiment with technology more freely due to the added linguistic resources of their students.

Spanish GSIs came from a variety of countries of origin, including the United States. Their English fluency was not a factor in deciding who was included to participate in the study, since graduate students must have reached an advanced level of proficiency in both Spanish and English to become graduate students and instructors in the Spanish Department. Due to the nature of this project, age, gender, marital status, religion, ethnicity, socio economic status (SES), and physical condition did not have any bearing on the makeup of the participants chosen for the project.

Based on the pre-established criteria (see *criterion sampling* in the next section) and the recommendations from the dissertation committee during the proposal meeting, there were only six viable participants I could approach to participate in the study. Two of the participants declined, leaving four participants for inclusion in this research project. All participants were female. In the end, the four participants who were included in the study were willing to participate. The data analysis chapters four through seven describe the background, as well as address the teaching and technology experience of the four participants respectively.

## **Purposeful Sampling**

As an overarching sampling strategy, I utilized purposeful sampling order to obtain participants that were suitable as a case of the phenomenon of interest (Gall, Gall, & Borg, 2003). This type of sampling is *information-rich* for the phenomenon I wished to understand in depth. Clearly, this type of sampling made no attempt to achieve population validity (Gall et al., 2003); however, the sample size can hold implications for institutions undergoing a similar process of technology integration in their departments. This type of sampling is deemed appropriate for a single study done at one particular institution of its kind.

Other sampling strategies under the existing umbrella of purposeful sampling can be further demarcated, particularly since the authors of qualitative methods textbooks do not seem to agree on the other types of sampling available to researchers. After consulting numerous sources, Patton (1990) offered a solution, a sixteenth type of sampling that he termed *combination or mixed purposeful sampling*. *Mixed purposeful sampling* was used for this research study since I combined the following three sampling strategies: (1) criterion sampling, (2) convenience sampling, and (3) typical case sampling.

### ***Criterion Sampling***

Criterion sampling suited the current study most in that it “involves the selection of cases that satisfy an important pre-established criterion for inclusion in the study

(Patton, 1990). This strategy was particularly useful in studying educational programs.

What follows is a list of the recruitment criteria.

Instructors must:

- (a) be assigned to a smart classroom at The University;
- (b) have experience teaching a foreign language prior to the semester under study;
- (c) believe that they are integrating technology to support their instruction and/or goals to some extent;
- (d) be a GSI for the Spanish Department,
- (e) be available and willing to participate in data collection during the fall of 2005; and,
- (f) belong to the same level of Spanish to reduce variability.

Furthermore, one of the instructors should:

- (g) teach in both a smart and non smart classroom during the data collection semester.

### ***Convenience Sampling***

Convenience sampling, although deemed as the weakest form of sampling by most sources consulted, is also a widely used sampling strategy in educational settings due to the fact that it saves time, money, and effort. What I understand as a convenient sampling strategy, as it pertained to my situation are that: (1) I was not able to include participants that taught at the same time that I taught or held office hours, and, (2) due to

personal constraints, I was not be able to include participants that taught before 9:00 in the morning or after 5:00 in the evening.

### ***Typical Case Sampling***

Typical case sampling was used inasmuch as the sample obtained from this type of sampling technique was illustrative, yet not definitive. This type of sampling strategy was also of interest because it is used to describe a program or participants to those who may not be familiar with the program at hand.

A rationale for adapting a *mixed purposeful sampling* strategy has been explained. In regards to *convenience sampling*, it is recognized that this strategy embraces the poorest rationale for inclusion and may yield information-poor cases. In order to safeguard against the selection of information-poor cases, other sampling strategies were employed in combination with convenience sampling, so that I would obtain information-rich cases.

As an instructor of lower division Spanish, I have come into contact with various instructors during the past three years I taught in the Spanish Department at TU. I developed relationships of varying degrees with instructors of other levels through holding office hours that coincided with those of other instructors. I have also been enrolled in linguistics classes with other Spanish linguistics graduate students. Further contact had also been established through holding conversations around the centrally located copy machine in the kitchen/break room. The beginning of the year pre-service

departmental meetings and other social gatherings during the year provided additional contact with lower division Spanish instructors. In sum, this insider information yielded opportunities to recruit potential participants on a voluntary basis (Merriam, 1998) and further helped determine typical cases for sampling.

### **Recruitment Procedure and Rationale**

Over the course of the spring 2005 semester I observed ten classes of Spanish department instructors. I approached individuals on the list of courses were approached, contingent upon the times they met (around my schedule) and whether they were assigned a smart classroom. While establishing initial in person contact with the potential participants, I determined whether or not these individuals had taught before and that they would still be present during the fall of 2005, the projected period for data collection. I approached these instructors to determine if they met the earlier mentioned criteria. A total of 10 potential participants were visited during the spring semester, but a decision as to their suitability as participants was not determined until after the dissertation proposal meeting was held and the fall 2005 GSI list was finalized.

Through visiting as many current instructors as possible during the spring term, and with insider status, I established that these potential participants had taught prior to the data collection semester, in addition to meeting other criteria for selection. By the end of August 2005, teaching assignments for the fall 2005 semester were finalized and versions of the assignments were emailed to instructors through the departmental listserv. After looking at the list, conferring with a committee member, and looking up the

classrooms on the university's technology classroom homepage, I was able to pinpoint several potential participants. All were contacted via email.

### **Sample Size**

In the end, based on the pre-established participant criteria, and recommendations from the committee, the participant pool consisted of four participants, who would potentially represent a variety of experiences. This number was chosen considering the possibility of participant attrition at any given time during data collection and/or analysis. Five one hour observations for each participant over the course of the 15 week fall semester took place. I conducted three 30 to 60 minute interviews per participant were conducted. I digitally audio recorded and fully transcribed all the interviews. Transcriptions generally require a four to one ratio, averaging four hours of transcription per one hour of interview material, a lengthy and time consuming process. I took field notes in a Word document on my laptop during observations. When needed, I expanded on the notes later in the day. Due to the amount of time spent in the field with observations, at home with transcriptions and field notes, available time as a resource was tapped as per inclusion of more participants. A smaller sample size increased the amount of time I was be able to spend observing and maintaining the high quality of data obtained from interviews, observations, and documents as the sole investigator in this project. The small sample size further allowed depth in description and the discovery of information about these participant's experiences.



### **Access to the Site**

Key gate keepers, two former lower division coordinators of lower division Spanish language instruction, were not only aware of the current research project, but also agreed to serve on the dissertation committee. I have contacted some of the gate keepers via e-mail and phone, set up appointments, and met with the coordinators in person. Furthermore, I was given an appointment to teach Spanish 4 during the fall 2005 semester, my seventh semester teaching for the Spanish department. Access to the site was obtained due to my continued involvement in the setting and through having two committee members who were aware of my proposed research at the site.

### **DATA COLLECTION AND DATA ANALYSIS**

The data collection took place during the fall 2005 semester, after the proposal meeting and Internal Review Board (IRB) approval. An application to IRB was submitted in July of 2005. Data collection was projected for the duration of the 15 week fall semester, extending into the two weeks of final exams after the last day of classes to conduct the final interviews. Four main sources for collecting data were used and consisted of: (1) instructor interviews, (2) classroom observations, (3) email reflections, and (4) documents. During the proposal meeting, the committee highly recommended that instructors keep a diary, journal, or write a reflection about their experiences during the data collection semester, and hence email reflections became an integral part of the data base. The following data collection chart serves to summarize the projected data to be collected:

TABLE 2

Data Collection Chart

Which source?	What?	When?	How many?	Why?	Which question?
Interviews	Interview 1	Weeks 1-3	1	Detailed the past experience of each instructor	1
	Interview 2	Weeks 4-8	1	Detailed the current experience of each instructor	1, 2 & 3
	Interview 3	Weeks 15 – finals	1	Meaning-making, tying it all together	1, 2 & 3
Observations	Observations	Ongoing for 15 weeks	5	Match up what participants said they do did what they actually did	1, 2 & 3
	Field notes	Ongoing during observations	Every observation	To be able to immediately include all observable & pertinent information	1, 2 & 3

Which source?	What?	When?	How many?	Why?	Which question?
Reflections	Email reflection	Every 2-3 weeks	5	To determine how instructors thought about their teaching	1, 2 & 3
Documents	Departmental syllabus/ Weekly schedule	Week 1	1	To see how the department made mention of technology use in the program	1
	Lesson plans	Each observation	5	To determine the plan the instructor has to integrate technology in the lesson	1

In the attempt to strive for validity through triangulation, the four main sources of data described in the above chart were needed in order to address the research questions for the current project. The purpose for inclusion of the data will be discussed in the section that follows.

## **Validity through Triangulation**

In qualitative research, interviews, observations, reflections, and document collection are often used to ensure validity through triangulation, since both breadth and depth of data collection are integral to a qualitative research paradigm (Merriam, 1998). Not only will the data obtained be richer in content, but these four sources enhance internal validity, which in turn “deals with the question of how research findings match reality” (p. 201). Representing reality can be tricky, since it is a mental construct and can be prone to numerous interpretations. “And because human beings are the primary instrument of data collection and analysis in qualitative research, interpretations of reality are accessed directly through their observations and interviews” (p. 203).

### ***Triangulation***

Triangulation of data is an integral part of the strategy for this study, which will in turn serve to enhance internal validity. Denzin (1978; as cited in Patton, 1990) identified four types of triangulation: data triangulation, investigator triangulation, theory triangulation, and methodological triangulation. For the purposes, budget, and time frame of this study, only data triangulation was possible. The four different sources of data would not be as strong if they were to stand alone; hence they were used in combination to support each other and to verify findings. *Interviews* were based on the words and perceptions reported by the interviewees. “Interview data can be greatly affected by the emotional state of the interviewee at the time the interview takes place. Interview data are also subject to recall error, reactivity of the interviewee to the

interviewer, and self-serving responses” (Patton, 1990, p. 245). *Observations* were useful since they provided a means to verify what was said during the interviews, but also had their limitations since they were subject to what the observer can merely observe. As the primary tool in data collection, I was only able to observe external behavior and thus necessitated interviews along with observations to go beyond what was merely observable from the outside. *Reflections* served to verify data obtained from interviews and observations. The email reflections also provided a prime source of data, since participants were able to make entries at will and without the duress of an in-person interview. Reflections also allowed instructors to express themselves more freely without the physical presence of the interviewer. Lastly, *documents* provided a “behind the scenes” look of certain aspects of the program that may not have been available through observation. Careful selection of which documents to include to support the other data collected was used, since documents can be one-sided, and can vary in quality and utility of information (p. 245).

### ***Internal Validity***

Internal validity, according to Merriam (1998), can be enhanced if the researcher used the following six strategies: triangulation, member checks, long-term observation, peer examination, participatory or collaborative modes of research, and researcher biases. Data triangulation has already been addressed. *Peer examination* was conducted, a strategy by which I checked in with my dissertation supervisor regarding the findings and data analysis, as an ongoing process, to help verify the findings as they emerged. Further

internal validity was reached through *member checks*, also as an ongoing process during data collection and data analysis. Field notes with researcher commentary were taken and written up during the data collection semester. Transcripts of the corresponding participant interviews, as well as the chapters pertaining to each one of the four participants were given to the interviewees to corroborate the plausibility of the results (Ibid., p. 204). Finally, every attempt was made to disclose *researcher's biases*.

### ***External Validity***

External validity can be reached through using the cross-case comparison or multicase study, as resulted with the present study. Many qualitative research authors argued that “in multicase or cross-case analysis, the use of predetermined questions and specific procedures for coding and analysis enhances the generalizability of findings in the traditional sense” (Burlingame & Geske, 1979; Firestone & Herriott, 1984; James, 1981; Miles & Huberman, 1994; Schofield, 1990; Yin, 1994; as cited in Merriam, 1998, p. 208). Through providing a *rich, thick description* of the findings, the readers of the dissertation will be able to determine how closely the current research may match their research situations, “and hence, whether findings can be transferred” (p. 211).

### **The Interviews**

Each instructor was interviewed three times during the semester and these interviews were *digitally tape-recorded* and *fully transcribed* for further analysis. I chose the *three-interview series* since this model of in-depth phenomenological interviewing

underscored the importance of becoming deeply familiar with each participant (Seidman, 1998). The three semi-structured interviews were guided by open-ended questions (see Appendices B, C, and D for the interview guides). Each interview was structured in such a way as to elicit the information that was the focus of each interview, but at the same time, enough room was left for the participants to express themselves freely. I selected a standard interview guide to help reduce bias on the part of the interviewer. The three interviews were conducted in the following order: Interview One: Focused Life History (see Appendix B), Interview Two: The Details of Experience (see Appendix C), and Interview Three: Reflection on the Meaning (Appendix D).

Dolbeare and Schuman (1982; as cited in Seidman, 1998) recommended a 90 minute format for each interview, since the standard 60 minutes is associated with a standard unit of time. After conducting the pilot study, 90 minutes was found to exceed the time needed to conduct each of the three interviews, ultimately, 30 – 60 minutes was deemed an appropriate length of time for each interview. I did remain flexible in order to allow for participants to express themselves freely without feeling time constraints imposed upon them by me. The approximate interview length was mentioned to the participants, so that they could plan accordingly. The interview continued as long as it was still productive and therefore did not hold fast to a pre-determined set time limitations on either end (Weiss, 1994). I was aware that I needed to develop and foster the newly developing relationship with the participants, so that the participants in turn could build trust in me as their interviewer and primary investigator of this study. At the same time, I took care to not provide feedback on teaching styles or methodology when

solicited by instructors. One participant did request such feedback, and I agreed to give input after data collection had ended. This was intended in order to avoid any type of hierarchical relationships or uncomfortable situations that could have arisen and contaminated the data, and furthermore could have detrimental effects on the newly developing interviewer/interviewee relationship.

The interviews took place during the 15 week fall semester. The first two interviews were spaced at two to three week intervals, so that the momentum gained from the first interview would continue into the next interview. Although Seidman (1998) recommended that all three interviews take place in that two to three week period, the nature of this study allowed for the third interview to take place during the last few weeks of the semester, or even during the two weeks after the last day of classes dedicated to preparation for, and administration of, final exams. The reasoning behind a delayed third interview is that it is directed to making meaning, and hence, serves as a means to reflect upon the phenomenon under study. Ideally speaking, if the semester draws to a close, interviewees may be able to more easily piece together their experiences and reflect upon that semester's teaching. With the additional time, I was able to prepare transcripts of the first two interviews for the participants to review before the third and final interview, as a means of refreshing their memories and aiding them in making meaning during their final interview. Furthermore, showing the transcribed interviews to participants also served as a means of *member-checking* with the participants in an effort to contribute to trustworthiness and credibility when writing the finalized version of the report (Lincoln and Guba, 1985; as cited in Seidman, 1998).



### ***The Transcription Process***

All interviews were digitally voice recorded and fully transcribed into word documents in a timely fashion. “Transcripts can be enormously useful in data analysis and later in replications or independent analysis of the data” (Patton, 1990, p. 349). I firmly believe in a full and immediate transcription, so that the transcription would be as accurate as possible. “This period after an interview or observation is a critical time of reflection and elaboration. It is a time of quality control to guarantee that the data obtained will be useful, reliable, and valid” (p. 353). I showed the transcripts to the participants upon completion as a means of *member-checking*. I elicited feedback from the participants regarding the contents of the transcripts; but, the four participants felt that the transcripts were accurate representations of the interviews.

### ***Summary of Interviews***

- Interview One: Focused Life History (Appendix B)
- Interview Two: The Details of Experience (Appendix C)
- Interview Three: Reflection on the Meaning (Appendix D)

### **The Observations**

Five observations per instructor were conducted over the course of the 15 week long fall semester. One or two classroom observations took place before the first and second interviews, so that I could ask follow up questions regarding classroom events that had taken place. Observations helped to corroborate interpretations gleaned from the

interview process. I arranged the first visits to the classroom prior to the observation with the instructors. I conducted all other observations throughout the fall semester, but did not schedule observations ahead of time with the instructors. Since the course's weekly schedule was available as part of the data and since I also taught the same course, I took care to not observe on in-class composition, quiz, and test days.

### *Field Notes*

I took field notes carefully during the observations directly into a Word document on my laptop. I made note of everything that occurred in the environment under observation. The field notes included the time when the event being observed took place, a complete description of what took place, and a personal commentary as to my perspective explaining what took place at the end of each entry. As Emerson, Fretz, & Shaw (1995) maintained:

...field notes are about others, their concerns and doings gleaned through empathetic immersion, they necessarily reflect and convey the ethnographer's understanding of these concerns and doings. Thus, field notes are written accounts that filter members' experiences and concerns through the person and perspectives of the ethnographer... (pp. 12-13)

I arrived early to the various observation settings in order to jot down initial first impressions. I cast a broad net in order to capture as many details as possible, yet still remain focused on observing key events or incidents that I deemed germane to the study at hand (Emerson, Fretz, & Shaw, 1995). Patton (1990) further believed that:

First and foremost, field notes are descriptive. They should be dated and should record such basic information as where the observation took place, who was present, what the physical setting was like, what social interactions occurred, and what activities took place. (p. 239)

Every attempt was made to capture detailed direct quotations. “These quotations are essential for capturing what anthropologists call the ‘emic perspective’ – the insider’s perspective of reality – which ‘is at the heart of most ethnographic research’” (Fetterman, 1989; as cited in Patton, 1990, p. 241).

In addition to taking raw field notes on the spot (Miles & Huberman, 1994), when deemed necessary I also added personal commentary to the field notes no later than the night the observations occurred (Emerson et al., 1995). Writing up notes the day of observing the phenomenon was essential in order to most accurately record the information, while at the same time being able to write researcher commentary through undergoing a reflective process. Every precaution was taken not to share any reflections with anyone until notes had been taken, in the event that the sharing of information should trigger reformulation of what data was collected prior to recording the information in the field notes (Berg, 2001). Finally, I noted as much detail as possible, guarding against a hasty data reduction that may have left out significant details that could have been an integral part of data analysis later in the process (Berg, 2001).

### ***Observer Relationship to Participants***

Patton (1990) addressed this issue by explaining that the fundamental distinction lay in the “extent to which the observer will be a *participant* in the setting being studied” (p. 206). Patton also noted that an observer’s relationship in a setting may change over the course of time depending on his or her involvement in the setting. “In some cases the

researcher may begin as an onlooker and gradually become a participant as the study progresses” (p. 206). In carefully reading Patton’s and Merriam’s descriptions, the stance taken that best described the relationship between my potential participants and myself was that of *observer as participant* (Adler & Adler, 1994, p. 380; as cited in Merriam, 1998, p. 101).

My role as observer was of primary importance over being a participant in the setting. Furthermore, my role as the researcher was known to the group as being present to collect data, thus discounting the role of *complete observer*. When the researcher is a complete observer, his or her role is not known to the group. Merriam explained complete observer as being in a public setting, like an airport, where the vast quantity of people present obscures the role of the observer. Furthermore, I acknowledge that my presence in the classroom did grant me a peripheral membership role, simply by being present in the setting (Adler & Adler, 1994; as cited in Merriam, 1998) did I become part of the setting. Here researchers “observe and interact closely enough with members to establish an insider’s identity without participating in those activities constituting the core of group membership” (p. 38).

## **The Reflections**

The email reflections contributed a main source of data to the current study. I emailed the instructors with a prompt on the Friday of weeks two, four, six, nine, eleven, and fifteen. Florencia and Julia emailed reflections four times while Liz and Sophie responded five times. I solicited reflections on Fridays with the intention that instructors

would be able to reflect upon the past few weeks without having to teach and attend classes over the weekend. In the emails I sent to instructors, I always asked them to think about their teaching practices in order to elicit a response that would address the research questions. The email message I sent at the end of week two was as follows:

It may help you to start out your reflection by copying and pasting the following statements, but these teacher reflections should be in whatever form you like. If these statements are not helpful, please ignore them.

I felt challenged when...  
I overcame this challenge when ...  
I didn't overcome this challenge when...

I found myself thinking about...

I felt frustrated when...  
I enjoyed/really liked it when...  
I got nervous when ....

Thank you.

Vanessa

When I received the email reflections back from the participants, they were in various formats; however, I did realize that I had not asked instructors to think about their lesson plans and teaching practices. I corrected this aspect in the next email I solicited from the four participants. The second email reflection at the end of week four was frased as follows:

Please take a moment and reflect on the past two weeks of your lesson planning, teaching, and /or execution of your lesson plans in class, particularly in light of technology in your smart classrooms.

The remaining email reflections I requested began with a prompt from me that contained some variations of the second email reflection.

## **The Documents**

The documents collected spanned a variety of sources. Of particular interest was the course syllabus, since this document would potentially highlight how the course supervisor and language department interpret the different areas to be addressed in the Spanish curriculum. The course syllabus would also bring to light what expectations should be met in terms of technology use in the classrooms. Lesson plans from the individual instructors and any amendments they may have made to the departmental syllabus were obtained, if possible for every observation conducted. In some cases, especially as the semester progressed, instructors did not have the time to make lesson plans, and/or lost track of where they had filed the documents. Any print materials provided by the instructor to students that were used on observation days were collected.

### ***Summary of Documents to be Collected***

- Departmental syllabus that states objectives and goals
- Individualized instructor syllabus/weekly schedule
- Lesson Plans

## **Data Analysis**

Data analysis for this research project was an ongoing process that began during the data collection semester of 2005 and continued during the dissertation writing semesters. Since I wished to utilize my time as efficiently as possible, I took a laptop to every observation to make direct entries of field notes and researcher commentary during the observations. This procedure became the initial step toward data analysis. A second step towards analyzing the data began upon interview transcription. All transcriptions were done upon completion of each interview during the fall 2005 semester. As each of the 12 interviews was conducted, I embarked on the initial task of category construction as I reflected upon the emergent findings that gradually became salient as the semester progressed.

I followed the recommendations set forth by Guba and Lincoln (1981) that categories should be “both comprehensive and illuminating” (Guba & Lincoln, 1981, p. 95; as cited in Merriam, 1998, p. 185). The four guidelines Guba and Lincoln (1981) suggested are as follows:

First, the number of people who mention something or the frequency with which something arises in the data indicates an important dimension. Second, the audience may determine what is important – that is, some categories will appear to various audiences as more or less credible. Third, some categories will stand out because of their uniqueness and should be retained. And fourth, certain categories may reveal “areas of inquiry not otherwise recognized” or “provide a unique leverage on an otherwise common problem” (p. 95).

With these guidelines in mind, I underwent a careful category construction process in order to place the data under the appropriate category.

During the spring semester of 2006, the transcripts, field notes with researcher commentaries, and reflections were repeatedly read in order to assign initial categories of data that were in keeping with the initial category construction obtained in the fall 2005. “Moving beyond basic description to the next level of analysis, the challenge is to construct categories or themes that capture some recurring pattern that cuts across ‘the preponderance’ of the data” (Taylor and Bogdan, 1984, p. 139; as cited in Merriam, 1998, p. 179). Initial themes began to emerge as the data was repeatedly read and compared against and across cases. As I read the data, I color coded the major themes across cases and made hand-written notes along the margins of all the transcripts, reflections, and documents. With the aide of the cut and paste function on the word processor, snippets of interviews, field notes, and reflections were easily lifted and placed under the corresponding emerging themes. Lastly, with the aide of my dissertation supervisor, I was able to place the emergent themes under three to four main categories when addressing questions two and three.

## **CHAPTER SUMMARY**

This chapter served to describe how I, the primary investigator, collected data during the data collection semester of the fall 2005 semester at The University (TU). I gave a detailed account of the method to ensure that I achieved validity through data triangulation. I have described myself as the primary tool in data collection, at the same time disclosing any possible bias I safeguarded against during data analysis. Data collection focused on in-depth phenomenological interviewing with the three-interview



series described in Seidman (1998). Four Spanish instructor GSIs were selected as key participants through purposeful sampling and observed five times over the course of the 15 week long fall semester. Six email reflections were solicited from the participants. Two of the participants responded to the email prompt four times and the remaining two responded five and six times respectively. The final source of data consisted of documents obtained from the instructors and other sources of information available to instructors. In order to protect the identity of the participants, I assigned pseudonyms to the instructors; furthermore, I stored all information securely. Lastly, I described the initial process of data analysis through category construction.

## **Chapter 4: Data Analysis**

### **INTRODUCTION**

Chapters four through seven highlight several aspects of the four participants from whom I collected data in the fall of 2005. I provided a detailed description of each participant in their own chapter, in order to address the first research question: How might instructors conceptualize or re-conceptualize their teaching practices when integrating technology into their curriculum?

I organized the current and preceding three chapters in the following fashion: (1) the introduction for each of the four participants, (2) the background and teaching experience of each participant, (3) the participant's experience with technology, and (4) the smart classroom set-up. The settings, in this case, the smart classroom set-up, are described in detail to capture the type of technology set-up as well as the general classroom set up and structure since they differ from participant to participant. In this final section, I also describe some implications the set-up of the smart classroom holds for each instructor in terms of movement in and about the classroom.

The next four chapters also contain a subheading entitled "Photo Album," in which three snapshots taken during the data collection semester serve to illustrate the participant's experience throughout the data collection semester. The photo album provides a venue to showcase the personal journey of each participant at the beginning, middle, and end of each instructor's teaching experience during the fall of 2005. The snapshots illustrate a complex phenomenon, by putting into words a thick description of

images gathered over the course of the semester. The final few pages of the next four chapters end with the summary of the chapter that synthesizes the information gleaned from the snapshots and data collected.

## **PARTICIPANT 1: FLORENCIA**

### **Introduction**

Florenxia chose her own pseudonym and agreed to be represented as an international student. I selected Florenxia through a mixed purposeful sampling strategy that combined criterion, convenience, and typical case sampling (outlined in chapter three). Florenxia met all of the earlier established criteria and taught at a time that did not conflict with my schedule. Furthermore, she was also a typical case representative of many of the graduate students at The University (TU) that taught in the Spanish Department as a Graduate Student Instructor (GSI), since many international students at TU seek teaching appointments.

### **Background and Teaching Experience**

Florenxia is an international student in her mid twenties. Her first experience teaching was in her home country in an English as a Foreign Language (EFL) program. Florenxia had experience teaching in a variety of language institutions, ranging from elementary schools to private language institutes, as well as adult EFL classes. Upon Florenxia's arrival to the United States in 2001, she had been a tutor to English as Second Language (ESL) students in local community schools as well as an ESL instructor in a

community college in the United States, where Florencia obtained her Master of Arts degree in Teaching English to Speakers of Other Languages (TESOL). Aside from having experience in both ESL and EFL, Florencia had been a foreign language instructor of Spanish, for the five years prior to data collection. At the time of data collection, Florencia was a full time graduate student at The University (TU) in Foreign Language Pedagogy (FLP) in pursuit of a doctoral degree. Florencia also taught as a GSI for the Spanish Department. Florencia participated in conferences and in many events typical to graduate students at TU.

In summary, Florencia was a graduate student and GSI with experience teaching in a variety of settings outside of the United States. She had taught a combination of EFL, ESL, and Spanish as a Foreign Language classes over the previous nine years of teaching prior to data collection.

### **Experience with Technology**

Florencia claimed that she was not a technology expert and pointed out that she viewed the overhead projector (OHP) and a television with VCR as modern technologies. Several times during her interviews she made reference to wanting to use the computer more in class as far as connecting to the internet to access Blackboard (Bb) or language and culture websites. Florencia purchased her first computer with her mother in her home country in 1999, so that she could write term papers at home. Florencia stated that her mother was more experienced with computers than she was, and she would often enlist her mother's help when needed.

In her every day life in the United States, Florencia used email on a daily basis to communicate with her family, friends, and students. She admitted that she sought help from her boyfriend for computer tasks that required more than word processing proficiency. When Florencia was studying for her Master of Arts degree in the United States, prior to enrolling in a doctoral program at TU, she learned how to use an Excel sheet to turn in her grades as part of the Spanish Department's requirements at her former institution. While she was teaching at The Community College, smart classrooms had just been introduced. The director of the ESL program at The Community College gave an orientation on how to use the smart classrooms. At TU, Florencia had been enrolled in several classes that utilized TeachNet or Bb for students to hand in homework and do weekly reflections. One of the classes she had taken as a graduate student was a paperless class. Florencia's view of technology at the beginning of data collection in the fall of 2005 was as follows. "I use technology...and you know some people are interested in technology and I'm not. I'm just using it because it's a tool to teach other things. I'm not a technology person even though I use it" (Florencia, Interview 1, p. 7). In this excerpt, Florencia made sure that the interviewer understood that she did not view herself as someone who is expert in, or even interested in technology. To her, technology in the classroom was simply a tool for her to convey her meaning to her students.

Even though Florencia did not see herself as a "technology person," she did feel comfortable using the computer for word processing. She also used the Internet for email, web surfing, and for Bb for classroom organization and management purposes. Florencia expressed a desire to use the Internet more in the classroom to make Bb

available to her students during class. She also wished to show cultural websites and/or clips of a movie with the DVD drive.

### **Smart Classroom Set-up**

In Florencia's case, one of the two sections she taught met in Everett Hall, an older building across the way from Peterson and Thornton Halls. Everett Hall contained mostly smart classrooms, although the media console touch panel was not as up to date as those in Peterson and Thornton Halls. Florencia's second section was not a smart classroom, which would potentially allow for richer data collection and comparison during reflections and interviews. Florencia's classroom in Everett was a large well-lit rectangular classroom with large windows. The class contained over 25 individual pupil desks that were arranged half way between a semi circle and full circle during the semester. On occasion, during small group work, pupil desks were moved to form smaller groupings of three to four students. The media console was set off to the side at the front of the classroom and was similar to the console described in chapter three. The projector hung from the ceiling, approximately in the middle of the classroom and projected onto the screen that Florencia pulled down over the traditional black chalkboard.

The front and back walls of the classroom were much smaller in comparison to the side walls. Students entered the classroom through the one door on the longer side wall next to the front of the classroom. A student late to walk in would have to cross the great expanse of white flooring in the middle of the classroom to find a seat, if one was

not available closer to the front part of the semi-circle. The following photograph represents Florencia's smart classroom set-up:



Illustration 3: Photograph of Florencia's smart classroom

This smart classroom set-up allowed Florencia more movement in the physical space in the classroom. Florencia positioned the desks herself, and in this way was able to have control over how she wanted the classroom arranged. Florencia spent her time in the classroom distributed in the following manners: (1) in front of the classroom standing in front of the screen if teaching an explicit grammar lesson, (2) seated in front of the classroom if promoting whole group discussion, and (3) walking around the classroom checking in with small groups of students during group work or small group discussion.

Occasionally, Florencia found herself behind the media console to position a document on the document camera, or to access the internet. The overall set-up of the classroom afforded Florencia and her students movement in their physical space in the classroom, depending on what the smart classroom teaching context demanded. The types of activities Florencia chose to carry out in the classroom impacted how she molded the classroom configuration. At the same time, the ease of movement of the desks facilitated a more student-centered approach when Florencia divided students into small group work.

Florencia's smart classroom set-up, although placed in Everett Hall, one of the older buildings on campus, still had the same basic operating equipment of the newer smart classrooms in the Spanish Department's new facilities (see chapter three for a more detailed description of the smart classroom set-up). The media console and screen were not as state-of-the-art as the new facilities; however, the arrangement of the desks allowed Florencia movement in and around the classroom.

## **FLORENCIA'S PHOTO ALBUM**

### **Section Introduction**

I chose the metaphor of a photo album in order to depict a visual story told through a series of three snapshots taken at three different intervals of the data collection semester. These three snapshots showcase where Florencia was during the beginning (first few weeks), middle (weeks five and six), and end (weeks ten through twelve) of the semester, in light of addressing the first research question: How might instructors



conceptualize or re-conceptualize their teaching practices when integrating technology into their curriculum? The three snapshots were taken from the four main sources of data: (1) interviews, (2) observations, (3) reflections, and (4) documents.

### **Snapshot One: The First Few Weeks of Classes**

I took the first snapshot during the first few weeks of Florencia's Spanish 4 class at TU. The first few weeks of classes is when the course instructor sets the tone is set for the entire semester. I conducted Florencia's first observation during the second week of classes. I took the following introductory paragraph from the first field notes to showcase the initial set-up Florencia established at the beginning of her classes:

Many students are already in the classroom...the room is arranged in a semicircle formation. It's a large classroom and all the desks fit in the circle. The first thing Florencia does is to come in and turn on her projector console and lower the projection screen. (Florencia, Field Notes 1, p. 1)

Through immediately turning on the media console and lowering the projection screen, Florencia has physically announced, through her actions, that this media is the chosen portal to convey information to her students. After preparing her room for the chosen media, Florencia then took attendance and announced that she was still getting to know students and their names. She made every attempt to connect visually with each student as she called out their names, an added attempt to remember and connect the students with their names. When Florencia finished taking attendance, she placed a document on the document camera that highlighted the four main objectives that she planned to cover

in class that day. The lesson plan she made for her students was typed with four bullet points as depicted as follows:

*HOY EN CLASE* (Translation: In class today)

- *Discutiremos “Las primeras impresiones” de las páginas 18 y 19*  
(Translation: We will discuss “First impressions” from pages 18 and 19)
- *Aprenderemos vocabulario nuevo* (Translation: We will learn new vocabulary)
- *Discutiremos estrategias de aprendizaje de vocabulario* (Translation: We will discuss vocabulary learning strategies)
- *Haremos “Hablando del tema”* (We will do “Talking about the Theme”)

After Florencia had gone over the plan for the day, she put up another document on the doc cam introducing the “Con un compañero” (Translation: With a classmate) segment of her class. She had a few questions on a typed up sheet surrounding the theme of “*las cosas divertidas que hiciste el fin de semana largo*” (Translation: the fun things you did over the long weekend). Florencia also displayed sections of the book that students should refer to during this warm-up exercise, by placing the textbook on the doc cam. As this class progressed, Florencia continued to use the document camera (doc cam) to visually show students examples from the textbook, a flashcard with vocabulary on it, and to explain “Hablando del tema” to the students.

A final use of the doc cam was to show students a list of questions that they must ask each other. This portion of the class requirements was called “*Hablando del tema,*”

that consisted of a series of questions students must ask each other to obtain their signatures. After they had collected five of their classmate's signatures, they had to check in with the instructor, so that she in turn could ask the student any of the questions listed. Florencia used the doc cam to explain the procedure with the "*Hablando del tema*" questions projected on the screen. The projected document was also made available to the students via Bb.

The lesson plan Florencia projected to her students differed in two ways from her individual lesson plan. Florencia's individual lesson plan was hand-written and contained six points as opposed to the four points projected to the students. Attendance-taking was the first point on her individual lesson plan and the *Con un compañero* segment was the second element not listed for her students. Florencia's personal lesson plan also allotted a given number of minutes to each activity she planned to cover.

Florencia's reflection written during the third through fourth week interval further strengthened what was captured during the first observation. When Florencia looked back at the previous weeks of classes, she reflected on the use she had made of her smart classroom:

I have used technology in my class every day. One of the 1<sup>st</sup> things I do every class when I enter the classroom is to turn on the projector and the document camera. I love the DOC CAM! It makes my life so much easier (because it helps me keep organized). I use it every day to show students what we will do in class that day. I also use it to give them a topic to talk about for approximately five minutes in pairs at the beginning of most classes. I project book activities a lot to let students know what activity we are doing as well as when students read out loud a text from the book. (Florencia, Reflection 1, p. 1)

This excerpt from Florencia's first reflection demonstrated that Florencia relied on the use of the doc cam in her smart-classroom. She attributed feeling organized and life being simplified to the doc cam's existence in her classroom. The doc cam also helped her provide a visual image for her students to follow in case they did not understand what book page and activity to turn to.

In summary, Florencia used the doc cam as an organizational factor, and at the same time, she used the doc cam to provide students with examples from the textbook and examples of documents on Bb. Florencia had established a consistent routine of powering the media console on and lowering the projection screen as soon as she entered the room. Florencia streamlined the daily lesson plan she projected for her students from the lesson plan she conceptualized for herself. In a sense, she re-conceptualized her lesson plan as she modified her original conceptualization for her students.

### **Snapshot Two: Mid-Term Time**

Roughly half way into the semester, after the fifth and sixth weeks of the fifteen week long fall semester, the class was progressing smoothly. Students and Florencia had begun to build a rapport with each other. Florencia began the class in the same fashion described in snapshot one. She powered the media console on as she came into the classroom and placed the student daily lesson plan on the doc cam to project for them. The following observation supports the consistency in Florencia's lesson planning and initial set-up as established during snapshot one:

Florencia asks students about their weekend. Florencia goes around the classroom making sure that students ask each other how their weekends were.

The overhead screen projects “*Hable con un compañero sobre: las cosas que hiciste el fin de semana.*” (Translation: Talk with a classmate about: the things you did over the weekend) (Florencia, Field Notes 2, p. 1)

For this class, Florencia had not projected a separate student lesson plan that highlighted the elements and/or objectives that would be covered that day. The *Con un compañero* question of the day was typed on a document that was projected with the doc cam and projector. Florencia typed her own individualized lesson plan for herself on a Word Processor that specified time allotted for each activity. In total there were seven elements Florencia wished to cover during the class period. The main difference between these aspects of Florencia’s class in the smart classroom, as compared to the non smart classroom, lay in the transfer of the word processed document to an overhead transparency to impart the organizational and visual aspects of the classroom to be projected. Florencia commented in a follow-up email that she had to spend extra time and money in making overhead transparencies, but the actual lesson did not have to be re-conceptualized.

After the initial *Con un compañero* warm-up activity, Florencia then progressed to the grammatical instruction portion of the lesson. For the next twenty minutes, Florencia went over the *punto clave* (Translation: key point) of reactions and recommendations that would introduce the present subjunctive mood. She typed her own document and placed it on the doc cam that summarized the information from the book. She explained the key concepts clearly, and at the same time elicited feedback and information from her students. Half way through the class period, Florencia put up an

activity on the doc cam to practice the key point of the chapter. During the last five minutes of class, students practiced their *Hablando del tema* for that chapter.

Not only had Florencia continued with the same basic structure she set up during the first few weeks of classes, but she had also started to experiment with the available media at her disposal on the media console in her smart classroom. Through writing the reflections for data collection, Florencia seemed to become more aware of how she was utilizing her smart classroom. Florencia showcased some added uses of the smart classroom, as well as the use of email outside of the classroom.

In these past two weeks, I have used technology a lot. I have communicated with my students via email, I have posted documents on Blackboard, I have posted grades on Blackboard, and I have also used the technology available in my classroom...I have used the computer to play a song. I used the song *A Dios le pido* (Translation: God I ask) for students to see how the subjunctive is used. I also played a conference about Puerto Rico from the book audio CD. Also, since Chapter 2 deals with Caribbean countries, I used the DVD player to show a clip from the movie *Buena Vista Social Club* to show students La Habana and to discuss how they feel about the images of La Habana that they see. (Florencia, Reflection 3, p. 1)

This excerpt from Florencia's reflection demarcated how she had increased the usage of different elements available to her over the initial five to six weeks of classes. Florencia continued to use the doc cam to project the *Con un compañero* question of the day, as well as other documents needed for the class. At this mid point, Florencia had incorporated more uses of the media console into her class routine. She took advantage of the CD and DVD Rom drive on the media console to aide in teaching culture and to serve as a starting point for classroom discussion. Furthermore, Florencia integrated grammar, with listening to music, while presenting culture to her students.

A key turning point for Florencia during this data collection semester also occurred at this mid point in the semester when she faced her supervisor's evaluation. Supervisors traditionally evaluate GSIs once a semester. One of Florencia's classrooms during the fall of 2005 was not a smart classroom. Since Florencia did have the availability of being able to present information in a manner that would be more visually stimulating in her smart classroom, she planned a culture rich class around the Caribbean countries highlighted in chapter two. Florencia decided to use the DVD player to show clips from the movie *Buena Vista Social Club* to highlight and discuss Havana with her students. Florencia realized that this would not be a possibility in her non smart classroom due to the constraints placed upon her by the physical set-up of the building and classroom. The following excerpt highlights not only Florencia's frustration of being observed in her non smart classroom, but also the fact that she had to re-conceptualize her smart classroom lesson plan to adapt to her non smart classroom lesson:

One more thing that I would like to share in this reflection is my frustration when my supervisor observed me on week 5. I don't mind her observing me, but I am a little bit disappointed about her observing the class that I teach in a classroom without a TV and DVD. My supervisor visited my class the day that I used a clip from the movie *Buena Vista Social Club* in my other class, the "technology class." In the class she observed, there is no TV or DVD, so I planned a slightly different lesson plan, one that did not include the clip from the movie. Don't get me wrong, the class was a good class, but I know that my other class, the one with the movie clip, was better that day! I have not seen my observation report yet, but when I meet with my supervisor to discuss the class she observed, I will tell her about the other class. The frustrating thing about it is that I had gone to the ITS desk on Thornton Hall the week before to reserve a TV and DVD and I had gotten one, but the problem was that it was a very big/heavy TV that I would have to take myself to a building that has no elevator. So... I cancelled my reservation because I thought that the 5-minute clip was not worth my time and effort (pushing the cart) to get the TV to the classroom and back to the ITS office. It was just logistically very difficult to do. But then again, now I wish I had taken the TV to the classroom because my supervisor would have observed a nicer/more

creative class. Oh well... ¡así es la vida! (Translation: That's life!) (Florencia, Reflection 3, p. 1)

This excerpt demarcates Florencia's frustration on many levels. She had to plan a slightly different class for the non smart classroom. Three elements stood out strongly in this reflection: (1) Florencia was upset that her supervisor did not observe the smart classroom, (2) Florencia attempted to reserve a TV and DVD player for her non smart classroom, but the process was too complicated making the five minute clip not worth the time and effort, and (3) Florencia felt that the smart classroom was a better class since it was "nicer" and "more creative" due to the movie clip.

Moreover, this quotation, taken directly from Florencia's stream of consciousness reflection underscores the frustration this instructor underwent in attempting to find an alternative with other technologies for the non-smart classroom that would involve her: (1) making a reservation, (2) picking up the equipment, and (3) transporting it herself to the classroom from another building. Since the physical demands were too strenuous for Florencia, and the demands on her time were significant, Florencia opted for another time-consuming alternative; she would have to plan and revise a separate lesson that would make every attempt to, in some way, simulate the same type of cultural information imparted through the availability and accessibility of the smart classroom. In the end, Florencia had decided that the TV and DVD cart would not be worth the time and effort (physical and mental), but she still had to expend considerable time and effort (mental only) to plan an alternative lesson that would make up for the gap. As Kramsch (1999) argued, Florencia had to decide what "expendable knowledge: was in her lesson,



and try to impart what was the most important element that the *Buena Vista Social Club* clip might have given to her students. Furthermore, Florencia still knew that the class would not be as good as the smart classroom lesson she had planned, and hence the evaluation from her supervisor may not have been as powerful.

Florencia had been transformed by the tools offered by the smart classroom. In planning the smart classroom lesson for that particular day, she realized that she would “come short” of the delivery of the same information for her non-smart classroom. Furthermore, Florencia recognized that the non-smart classroom class was not as enjoyable and as valuable an experience as her smart classroom lesson; a sentiment echoed by Norman (1988), who espoused that technology “offers the potential to make life easier and more enjoyable” (p. 30).

To summarize, Florencia added more elements to her teaching practices that incorporated more uses of technology inside and outside of the classroom. The most noticeable additions between the beginning of the semester and the mid point were the increased use of the CD/DVD Rom drive to play music, the audio CD that accompanied the textbook and film clips to showcase cultural elements to the class. She continued to use the doc cam consistently to project the daily lesson plan and other activities. However, as Florencia became more creative and willing to explore other uses of her media console in the smart classroom, her frustration with her non smart classroom began to build, an element supported by Norman’s (1988) U-shaped learning curve in terms of the complexity technology presents: “starting high; dropping to a low, comfortable level;

then climbing again” (p. 30). Florencia’s discomfort with the available technology in her smart classroom began to ascend at the midpoint during snapshot two.

### **Snapshot Three: The Last Few Weeks of Classes**

I consulted the weekly schedule for Spanish 4, in planning when to make the final observations and when to solicit reflections from the participants. The last two weeks of classes were riddled with review, in-class compositions, and final oral interviews, and so, I determined that the best time to end the observations would be during week 12. Consequently, this snapshot contains elements from Florencia’s final reflection and the final observation.

The use of the doc cam as an organizational feature to project the daily lesson plan declined during the last few weeks of classes. During a reflection, Florencia admitted that she had run out of time to type up the lesson plan, as illustrated by the following excerpt:

I have to recognize that because I have had less time to prepare my classes, I have not prepared the lesson plan to show students on the document camera. If you remember, I used to always have a sheet that said: “*HOY EN CLASE...*” (Translation: Today in class) Well...now I just tell students what we will do in class, but I don’t show them the sheet (I guess this is affecting my visual learners...). (Florencia, Reflection 3, p. 1)

Not only was Florencia not using the doc cam to display the daily lesson plan, but she also started to experience more difficulties with trying to project portions of a DVD she had rented from a local chain movie rental store. She had selected the clip she wanted to show at home. She had taken the precaution at home to learn how to turn off the director

commentaries, but when she arrived to class, she was not able to run the clip to her satisfaction. With the help of her students, she was able to project the clip, but only after having spent class time trying to resolve the issue. Florencia had to make spur of the moment adjustments to her lesson plan, as depicted in the following excerpt:

So...I found out how to turn the commentary off and I paid careful attention because I wanted to remember how to do it in class. I thought that I was ready; however, when I played the movie in class, the same thing happened and I could not find a way to turn the commentary off. I had students helping me and they could not figure out how to do it either. Finally, one of the students figured it out and we could watch the clip, but...we had wasted like 15 minutes of valuable class time and I could not do one of the activities that I had planned to do...the problem was that with the commentary on, we could not hear the music that the dancers were dancing to, so it made no sense to watch the clip. I was extremely frustrated because I had taken the time to rent the movie, selected the clip, and many other things and things did not go as planned. (Florencia, Reflection 4, p. 1)

The above two excerpts illustrate how Florencia's use of technology declined after the increase at the midpoint in the semester. No longer was Florencia able to afford the time in her schedule to write out a lesson plan to show on the doc cam, but also her enthusiasm for the equipment declined as her frustration with the equipment increased and she lost time in the execution of her plans. On Norman's (1988) technology U-shaped curve of complexity, Florencia was steadily on the climb to a more uncomfortable level. Florencia had set goals for herself at the beginning of the semester to begin to incorporate the use of the CD-ROM player more in her smart classroom in order to show more videos and movies; however, when her confidence level had augmented enough at the beginning of the semester, she was met with a roadblock that impeded her progress which was the complexity of the technology's design offered by the smart classroom. Her discomfort with the smart classroom actually escalated over the course of the

semester; however, every new experience she grappled with gave her more information that she could then connect to her prior knowledge of how the machinery worked.

When Florencia was asked during her final interview how she re-conceptualized her lesson plans and practices in light of the availability of a smart classroom, she responded:

Florencia: Well, I'll give you an example...we got our teaching assignments last week or two weeks ago and the first thing I checked online was if I had smart classrooms because if not, that is the first thing I'll do when the semester starts, fill out that form because I think it's very important to have technology in the classroom and not be carrying things around. I don't know if I would change...I mean if I get, I think both my classes have technology so I think I'll do the same that I've been doing with technology. I'll try to incorporate as I said before, the computer more, but I don't know how to do it...maybe...

*Interviewer: What do you mean by that?*

Florencia: In the classroom I don't use the access to internet that much, for instance, and I would like to use that. I've used it, but I don't use it a lot, I tend to use the document camera every day, but not the access to the Internet and so I don't know maybe I could incorporate that, I could change that, I could add that to my classes. For instance, I could show students trailers, movie trailers and that's catchy, that will help them decide what movie to see if we show them a variety of that. I don't know I could show them websites that have good exercises...grammar exercises before tests. I don't know, but I don't think I will change much because I think I am using the resources I have. (Florencia, Interview 3, p. 2)

This interview portion underscores the importance and interdependence she felt in having a smart classroom at her disposal. The second portion of the interview selected also highlights the re-conceptualization Florencia had begun to make in light of the possibilities presented to her in the future with the smart classroom for the following semester. Insofar as she did not know how she might incorporate added features of the

media console into her smart classroom, she knew that more potential existed with the Internet that she had not explored as part of her curriculum.

To summarize, Florencia seemed to no longer have as many resources available to her during the end of the semester. She was no longer able to find the time to plan her lessons in the same way she had in the beginning of the semester. Furthermore, she became increasingly more frustrated with the computer applications and her abilities to show movie and video clips to her students; however, at the same time, Florencia pushed herself and underwent a reflective process. She realized that she wanted to attempt to integrate the Internet into her instruction in the future.

## **CHAPTER SUMMARY**

Although Florencia, an experienced Spanish and EFL teacher of nine years, did not see herself as a technology person per se, as reported in her first interview, she did demonstrate a level of comfort with some of the resources available through her smart classroom's media console. Florencia depended primarily on the document camera above any other technological innovation. Rather than solely relying on one type of equipment, Florencia had set small goals for herself at the beginning of the instructional period to fulfill over the course of the semester, namely, to attempt to incorporate the DVD drive more often to show movie clips and videos. During the final interview, Florencia's reflective process allowed her to set another goal for herself for the next semester, which was to use the computer to connect to the Internet more often in the smart classroom. Even though Florencia became frustrated by having to adapt lesson

plans between her smart classroom and non smart classroom, and had difficulty with operating the DVD drive, Florencia persevered with her use of technology in the smart classroom.

Over the course of the semester, Florencia's daily visual presentation of her lesson plan did decrease, as well as her usage of the technological resources, by the end of the semester; Florencia became aware of her desire to integrate more resources at her disposal to support her teaching. Florencia was learning how to incorporate technology into her teaching, on occasion re-conceptualizing lesson plans before class when faced with teaching in a smart classroom and in a non smart classroom, but also sometimes on the spur of the moment when she was not able to operate the technology. Florencia continued to learn as a teacher in her smart classroom on a daily basis alongside her students learning fourth semester Spanish.

## **Chapter 5: Data Analysis**

### **PARTICIPANT 2: JULIA**

#### **Introduction**

Julia is the second of the four participants I describe; since I chose an alphabetical organization to structure the findings of the four participants. I assigned the pseudonym of Julia to the participant since it reflected her bilingual and bicultural experience with the English and Spanish speaking worlds in the United States. I selected Julia through a mixed purposeful sampling strategy that combined criterion, convenience, and typical case sampling. She is a typical case representative of many of the graduate students at The University (TU) who taught in the Spanish Department as Graduate Student Instructors (GSIs). In addition, due to the time at which Julia taught during the fall 2005 data collection semester, she had procured one of the smart classrooms in Peterson Hall.

Furthermore, Julia also represented a typical case for TU since the first time she taught in a smart classroom was the data collection semester. Her status as a novice teacher and novice user of a smart classroom further underscored Julia as a typical case sample, at the same time; this assisted me in addressing the first research question: How might instructors conceptualize or re-conceptualize their teaching practices when integrating technology into their curriculum?

## **Background and Teaching Experience**

Julia grew up in the southwestern United States in an environment where Spanish was spoken at home. Julia's experience with the Spanish language and ethnic background as a Mexican American classified her as a bilingual speaker of both English and Spanish. She was a young married woman in her early to mid twenties, making her the youngest of the four participants. Julia was one of the two most novice instructors of the four participants from whom data was collected. Julia did initially display some reservations about participating in the study; she stated that she felt uneasy about being observed for the entire semester due to her novice status as a classroom instructor. After more thought, she decided that the data collection procedure described to her for the study would not be intrusive, and hence agreed to participate.

Julia had some teaching experience as an official tutor for the public school system in the city where TU is located. She tutored middle school students in Reading, English as a Second Language (ESL), Language Arts, Biology, Algebra I, and History from 2001 until 2002. She also served as a daily Spanish/English tutor in the classroom for middle school students. At the high school level, she tutored students in Physics, Algebra II, Pre-Calculus, Calculus, and Spanish. She also worked for a tutor provider service connected to TU from 2001-2002, helping college students with Linguistics and Spanish courses.

Julia had attended TU in the past as an undergraduate and began her studies as an Electrical Engineering major, but changed her course of study to Spanish Linguistics after three years in the Engineering Department. She graduated as a major in Spanish



Linguistics with a minor in Linguistics in the fall of 2001. In 2002, Julia embarked upon her graduate career in the Spanish Department aiming for a Master of Arts degree in Spanish Linguistics, which she completed in the fall of 2005. She received funding as a Teaching Assistant (TA) for the language laboratory, not yet fulfilling all the requirements to be a Graduate Student Instructor (GSI) in the classroom. Julia's first teaching experience at the graduate level as an instructor solely responsible for her class was in the fall of 2004. In the spring of 2005, Julia began her coursework towards earning a Ph.D. in Romance Linguistics.

In the fall of 2004, Julia found herself in charge of her first group of students as the instructor for the first semester of lower-division Spanish. After teaching first semester Spanish for one full year, she requested to be moved to fourth semester Spanish in the summer of 2005, to gain more experience teaching other levels of Spanish. Summer courses at TU tended to be more intense in nature and faster paced, since the comparable amount of material was covered in less time than during the fall or spring semesters. Of additional significance to this study, is the fact that Julia had never taught in a smart classroom prior to the data collection semester.

In summary, Julia had been a classroom GSI solely responsible for the course for almost two full years at the writing of this document. She was one of the two most novice instructors and reported that she was a bilingual speaker of both English and Spanish. Julia also had the least amount of experience teaching in a smart classroom. Julia had been assigned to a smart classroom during the summer prior to data collection;

however, she reported that she had not used the smart classroom capabilities with regularity.

### **Experience with Technology**

Although Julia had never taught in a smart classroom prior to the data collection semester, and had also never requested a room change to a smart classroom, Julia felt very comfortable with computers and other electronic devices before the fall of 2005. During her undergraduate studies in Electrical Engineering, Julia had many opportunities to work with computers, computer programming, and a variety of computer applications. Julia had worked as an intern for International Business Machines (IBM) in a local research lab for two years, in which she designed and created Intranet Web Pages, configured web servers running Linux and Apache, administered the network, and created an interactive multimedia CD ROM.

In the summer of 2005, Julia purchased a brand new Mac laptop that she took everywhere with her. During informal conversations with Julia, she admitted to constant “fooling around” on her new laptop to become better acquainted with the new operating system (OS). Not only did Julia want to familiarize herself with the inner workings of her new laptop, but she admitted that she greatly enjoyed doing so, and could spend hours playing with her laptop. Julia also admitted that communicating via email was a necessity of her every day life and said she checked her email several times a day. In addition to email and Instant Messaging, Julia also used the Internet for a variety of

purposes; such as, to look up television programs and schedules, movie times, directions, among other uses.

In summary, Julia felt very comfortable with all aspects of computer technology, from programming to surfing the Internet and communication via email. The affordances of the Internet permeated aspects of her every day life with the availability of movie and TV schedules, bill paying, and communicating via email. Julia's professional experience working as an intern for IBM and her background in Electrical Engineering provided her with the comfort and ease to enjoy "playing around" on her new laptop. Julia never stated specifically that she "used" technology, instead, technology was invisible to her, it was seamlessly integrated into her every day life.

### **Smart Classroom Set-up**

Julia was the only one of the four participants who taught in a smart classroom in Peterson Hall in the Spanish Department's new state-of-the-art facilities. In the spring semester, when schedules and preferences were requested of the GSIs, Julia admitted to looking at the time and room schedule posted online for fourth semester Spanish; so that she could request two sections that met later in the day. Her request was twofold, she wanted a time to teach that would be convenient for her schedule, and at the same time, would allow her the possibility of teaching in Peterson Hall where she would be guaranteed availability of a smart classroom according to the schedule of courses. She requested two sections at the end of the day, and since these classes only meet in smart

classrooms in Peterson, her wish of teaching at the end of the day and in a smart classroom was granted.

The smart classroom on the basement floor of Peterson met the same specifications of the smart classroom set-up described in chapter three (see illustration 4). Julia's smart classroom was a small room that sparsely had room for the teacher desk and the 24 pupil desks it contained. Students and instructors entered through the one door at the northwest corner of the room. The chalkboard and projector screen lined the entire west wall of the classroom. The media console took up the southwestern corner of the wall. The red pupil desks filled the rest of the classroom. Although only 18 out of the possible 24 students were enrolled in this section, the space felt cramped. During the five observations, the desks were always arranged in four rows with six desks per row, the small size of the room did not allow for many other possible configurations. The following snapshot taken from chapter three is identical in set-up to Julia's smart classroom set-up:



Illustration 4: Photograph of Julia's smart classroom

Due to the size and physical set-up of the smart classroom described and pictured, Julia's physical movement in the classroom was constrained to movement in and around the front of the classroom. Julia spent the majority of class time walking in front of the four rows of desks. On occasion, Julia would go behind the media console to bring up a document on Blackboard (Bb), go to an Internet website, or maximize a movie clip from a DVD or audio CD that she had prepared and minimized on the computer's desktop before class.

To summarize, Julia's smart classroom set-up in Peterson Hall in the Spanish Department, allowed her all of the conveniences available to her through her smart

classroom. One drawback for Julia was that she was limited to the front of the classroom. At the front of the classroom, she moved back and forth between the media console and the space between the teacher desk and pupil desks. The physical set-up of the classroom limited Julia's range of movement.

## **JULIA'S PHOTO ALBUM**

### **Section Introduction**

The three snapshots I chose for Julia's photo album were taken at three different intervals over the course of the 15 week data collection semester. I captured the first snapshot during the second week of classes, the second snapshot during the mid-point of the semester between weeks five and seven, and the final snapshot represents the end of the semester. A preponderance of the data surfaced in the final interview conducted during finals week.

### **Snapshot One: The Second Week of Classes**

I took the first snapshot during Julia's second week teaching in her smart classroom in Peterson Hall. I obtained the data for this first snapshot was from the first classroom observation I conducted. The following excerpt serves to illustrate the reliance Julia had on using PowerPoint (Ppt) as her lesson plan to help her organize and manage her classroom execution. At the same time, this observation snippet describes the set-up of Julia's classroom and the classroom management style she chose:

Some students are already in the classroom as I arrive and set up my laptop and the room is arranged in long rows in the small classroom. There's a Ppt

presentation up on the screen overhead. The computer console is situated at an angle that seems to facilitate Julia moving behind the console, opening it up more to the classroom. She, however, must then be facing the wall sometimes if she clicks on something. Julia is walking around the classroom. Julia explains that homework is to be handed in before class starts to not spend class time having to go over it. (Julia, Field Notes 1, p. 1)

In addition, this excerpt from the first observation also highlights Julia's physical space constraints felt in the small smart classroom. Julia's physical stance when she stood behind the media console situated her in such a way that she was no longer facing her students when she screened varying documents on the computer or the document camera (doc cam). Julia's movement constraints in the smart classroom, as well as relying solely on the use of Ppt to deliver her course materials added to the general feeling of unease displayed by her in the smart classroom at the beginning of the data collection semester. This was understandable, since not enough time had passed for Julia to build rapport with her students, and she did not have as much traditional classroom experience as some of the other participants in this study.

The above excerpt also captured the expectations Julia had established regarding homework, addressing the *when*, *how* and *why* of the assignments. Furthermore, Julia had set the precedent that Ppt would be used as a driving force to organize the execution of the class by greeting students with the PowerPoint (Ppt) slideshow as they walked in the room. Since the classroom was small, the stream of light from the projector was the first thing students were met with when they walked into the classroom. This stream of light immediately drew students' attention to the screen and the Ppt slide projected. Since the students were frequently greeted by the stream of light issuing forth from the

projector, this also served to establish the use of technology as center stage in the first few weeks of classes.

During an informal debriefing session at the end of the second week of classes, Julia had admitted that it took her approximately three hours to organize and plan her Ppt presentations. Julia clarified that to her the Ppt was her lesson plan for the class. She said that she conceptualized her lesson as she put it into Ppt, while surfing the Internet to find images that she would then convert to PDF files to insert at key moments during her slide-show presentation. Julia took a significant amount of time to surf on the Internet to find the most appropriate images to meet her goals for the classroom. For instance, during the debriefing section, she mentioned that part of her lesson plan conceptualization was deciding what types of images to use. She had decided to use “The Simpson’s” images for descriptions and comparisons. Julia believed that since students were already familiar with the show, they would find it easier to make more meaningful comparisons. In fact, Omaggio (2001) claimed that “students are certainly engaged in oral language use that is contextualized and, to some extent, personalized” (p. 109). Although The Simpson’s may not have been in context regarding the chapter covered, the images were contextualized and personalized to students’ interests and familiarity.

It took Julia more than an hour to find and convert the images the morning she wished to execute her lesson, on the particular day I debriefed Julia. The picture files consisted of only one aspect of Julia’s Ppt slide-show. Julia generally planned six to eight slides for a 50 minute class. Although time-consuming, Ppt slide-shows presented



several affordances, one being the visual impact it could have for her students. At the beginning of the semester, Julia realized that input for students needed to be meaningful. Omaggio (2001) underscored the importance of language as meaningful in the following manner:

Most second-language educators would agree, at least in theory, with the idea that learning and practicing language in meaningful contexts is more appealing to both students and teachers than learning isolated bits of language through extensive memorization and drilling. (p. 144)

Julia already had made a first important step towards recognizing the role of context and meaningfulness when she approached the planning and execution of a lesson. For Julia, Ppt supported her means to deliver the information in a meaningful way to her students. Furthermore, she admitted that she “not only likes the organizational factor Ppt affords her, but also that it took student eyes off of her” (Julia, Debriefing Session 1, p. 1).

To summarize, Julia used the media console and the Ppt presentation mode for several reasons: to organize her teaching, to guide her teaching and execution of classroom goals and objectives to make the information meaningful and contextualized. Julia began her first smart classroom teaching experience, during her second year of teaching, by using Ppt as a driving force behind her conceptualization of lesson plans. Julia also conceptualized her lesson plans, and re-conceptualized them as she sorted through the material on the Internet and in her own mind, while she decided what images and information to include. In terms of the delivery of information to her class, she was organized to the extent that she had all of the documents and Internet sites readily available, minimized on her computer screen before the beginning of class. Julia also

admitted that the Ppt slides took a considerable amount of time to plan and organize, but she displayed a proclivity for this form of delivery since it helped her feel organized. At the same time, the Ppt slide-shows had a tendency to keep students' eyes on the screen and away from her. This first snapshot served to illustrate Julia's propensity to use Ppt slide-shows to organize her class lessons, and physically use the media console as a shield from her students. When Julia read this portion of her analysis, she was surprised to realize that she really had "hidden behind" the media console as much as depicted in this document. After exchanging an email regarding this finding, in which I had sent her a copy of the interview transcript, Julia realized that it was entirely possible that she had used the console as a screen or shield. After looking at the transcript, Julia realized that she was in this reflective process, and that she could have conveyed that information at that point.

### **Snapshot Two: Mid-Term Time**

I took Julia's second snapshot during the seventh week of classes, at the mid-point of the semester. I took the following data from Julia's second interview on her current experience teaching in the Spanish Department at The University (TU). The following excerpt illustrates how Julia was constantly thinking about her teaching and how she executed her teaching in the classroom.

Although I've had to balance out between making transition easier by throwing some introductory sentences between the activities, but that's working out well, so...if I'm moving from say a reading activity that's followed by comprehension questions in the book, to having them listen to something on the CD player, while looking at something on the doc cam, while filling in verbs while they are listening to a song,...instead of just doing that cold, you know reading slash

talking and now I have to fill in blanks. If you give them some sort of transition like how does this song relate to what we're doing, why are we doing this song, then it's better, because it's not just boom boom boom, a series of activities that are not coherent at all. So, I found that I was kind of doing that in the beginning, it was just cold switching, when now it's during the fifteen minutes; they can see how everything is related. I'll give them the history of the song if it's a cultural thing, or, what does the subjunctive mean, non factual kinds of things. (Julia, Interview 2, p. 3)

This citation underscores Julia's need to find better links or bridges between activities.

Salaberry (2001) emphasized the importance of the connection made between activities, particularly before and after a technology-driven activity in the following manner:

The success of a technology-driven activity will likely depend as much, or more, on the successful accomplishment of pre- and post-activities than on the technology activity itself. For instance, the success of a pedagogical activity based on the analysis of information retrieved from a textbook, a videotaped program, or the Internet is inherently dependent on the type of processing generated by task demands placed upon the learner, rather than the number of resources consulted or the comprehensive nature of the information retrieved. (p. 51)

Julia of her own accord, without consulting theory, already attempted to make these connections herself and sought transitions among her activities. Julia was also able to look back at her first weeks of teaching in order to reflect upon her own process between the second week and the seventh week of classes. She recognized that she was not satisfied with the transition between activities in the beginning of her semester as a GSI.

In one of Julia's email reflections, she admitted that she had come to the decision to not rely on PowerPoint as much as she had in the beginning.

I've stayed away from the PowerPoint. It seemed a little too rigid and impersonal. And I get to interact a little more and do some transitional stuff when not using the Ppt. I will go back to it when I have a very technical lesson, or when I have a lot to cover. (Julia, Reflection 2, p. 1)

This quote underscores the need for Julia to find more connections between activities during her class session. At the same time, Julia made a powerful distinction that some lessons may lend themselves more appropriately to the use of certain technical tools. She determined that there are particular uses for Ppt slide-slows, and that they may not always be appropriate for the delivery of certain types of information. At the end of this same email reflection, Julia reported to having found “a good balance between technology and traditional teacher/book activities” (Julia, Reflection 2, p. 1). A delicate balance is tough to achieve when teaching a foreign language; however, Julia felt that she was achieving this balance of how much technology versus how much book to use in the planning and execution of her lessons.

Julia already found herself evaluating the choices of activities she was making at that point during data collection. She seemed to constantly re-evaluate her teaching in an attempt to ascertain if she was supporting the same teaching and/or learning goal, as recommended by Warschauer (2000) and Bax (2003). As opposed to inundating students with unlinked material, Julia had noticed a need to re-evaluate *what* she was doing and *how* she was delivering the information to make it more cohesive for her students.

During the seventh week of classes, Julia had moved away from the Ppt as her primary means to organize her class material. When I asked her why she was no longer using Ppt to present her lesson plans to her students during the second interview, Julia responded that:

I guess it gave me less of a chance to talk to them because everything was already on the screen and they could just read it and it felt that they could be in the classroom with a robot and it wouldn't make a difference. But if they talked to

me more than they get to know me. I could probably go back to it now, now that they know me, and I've had interaction with them and it would be different. But I wanted to make sure that they weren't just reading. And plus it was time consuming for me to put everything up there when not everything has to be spoken and read by them. If I just speak some of the stuff it's fine, but the stuff I really want them to see, then I put it up there. If I want them to hear me or hear a song and see the song, the lyrics at the same time, the stuff that I really want to reinforce is up there. I keep doing that, but...I guess that I realized for all the time it takes, I don't need to have everything written for them. (Julia, Interview 2, p. 5)

This citation underscores that Julia conceptualized and re-conceptualized her teaching practices in the classroom. She realized that not only could she be compared to a robot, but she also put into question the need of her presence in the classroom if she continued to have students stare at the Ppt. The robot metaphor further highlights the fears many teachers have when faced with technology as an innovation in the classroom, in particular the fear of being replaced by a machine (Burnett, 1999). She also noticed that she was using up one of her valuable resources, time, by taking several hours to plan a Ppt presentation. As per her re-conceptualization of her choices of technology in the delivery of her material, Julia constantly re-evaluated her choices, and was aware of her reasons for leaving the Ppt slide-shows behind. At the mid-point in the semester it became essential for Julia to build a connection with her students. She consciously recognized that if she chose, she could return to her old ways of presenting the material. In contrast to the first snapshot, Julia felt more at ease in the classroom by foregoing the Ppt presentations in favor of increased contact with the students. The only element and/or tool that had been traded off at this point in Julia's smart classroom, was the Ppt as a

major organizing force; however, the difference already displayed a stark contrast to the second week of classes when Julia had relied solely on Ppt.

In summary, Julia began to feel more relaxed in her smart classroom with her students, since she decided that she wanted them to get to know her as an individual better. At the same time, Julia was still adding to her classroom teaching experience by seeking to make smooth transitions between activities, and present material that still utilized the smart classroom resources through the media console. At this point in the semester, Julia had traded off the use of the Ppt slide-show presentations for increased contact with her students and added time to plan other elements for the classes she taught and the classes she took as a graduate student.

### **Snapshot Three: The Last Few Weeks of Classes**

I organized Julia's final snapshot around her final interview for the data collection semester, in which she made meaning of her entire semester of teaching in a smart classroom. Julia's final interview was conducted during exam week, the week after the 15 week long semester's last day of classes. The timing of the final interview was opportune and crucial, since it allowed Julia a week of distance from the last day of classes to be able to look back at what had transpired over the course of the semester. The following quotation underscores the reflective process Julia experienced during her first semester of teaching in a smart classroom:

Yeah. I think I tried to be too technological at the beginning of the semester and tried to have it all in that media or medium, and towards the end that kind of faded away in favor of me talking to the students and getting them to listen to me and not just look at what was on the screen. So it was a mixture of having things

available for them to look at and hear and listen to and us communicating like normal people who don't have a computer between them. So, next semester I can back off from being completely, you know, Ppt presentation kind of lecture and kind of mix it in better with doing the normal classroom stuff like speaking and writing on the board. Because I think you need a feel for all of that just so they can feel that not behind, but they have a mixture of everything and that kind of keeps them on their toes and I think it will make them pay attention to me more, because they won't know what is coming next exactly, but as long as I have something coming at them from each different direction...you know writing on the chalkboard, talking to them in a conversation, putting something like movie or music up on the screen, I think it will mix better. It will be better to have things mix like that. (Julia, Interview 3, p. 2)

In this excerpt from Julia's final interview, the participant was fully aware of her progression in teaching style over the course of the semester. She recognized her need to communicate "like normal people" with her students, as opposed to letting the Ppt presentation overpower her in the classroom. Moreover, Julia was able to look back at the semester with a critical gaze and deduced what elements she would like to change in her teaching and in the delivery of her information; the elements that made up Julia's teaching practices. At the end of the semester, Julia had begun to make plans for the next semester of teaching. She sought a balance between a lecture Ppt-centered format and more writing on the traditional chalkboard. She also recognized the need to begin to elicit more conversation from her students, and that by "mixing it up" she may be able to attain some of her more proximal goals. Not only was Julia attempting to balance the demands of being a novice GSI in the classroom, but she also wished to balance the smart classroom itself. Julia's tendency was to let technology speak for her at the outset, slowly transforming into a classroom where the rapport established among her students superseded the need of a Ppt slide-show presentation.

Julia's quote also reveals her belief that some elements are "normal classroom stuff like speaking and writing on the board" (Julia, Interview 3, p. 2). Julia was aware that she would like to continue to provide this form of exercise and delivery in her classroom, since it is deemed "normal," but also that students may expect that type of material delivery, and thus may feel more comfortable with her. In a manner of speaking, Julia negotiated the curriculum with her students, at the same time, she recognized that trade-offs existed. She decided what her preferred mode of delivery was, and attempted to balance this with what her students' desires, so that they in turn would not feel behind in the subject matter.

In summary, Julia passed through a deeply reflective process of her own accord and decided that she needed to *mix up* the curriculum. She made decisions to balance textbook usage, with Internet activities, and more classroom conversation time. By the end of the semester, the Ppt slide-show presentation from the beginning of the semester was traded in favor of increased contact with students. Julia decided that she desired to have students' loci of attention on her more so than on the pull down screen behind her.

## **CHAPTER SUMMARY**

Even though Julia did feel very comfortable with many aspects of technology due to her background in Electrical Engineering and her curiosity to experiment with computer applications on her laptop, she felt the need to alter her form of presenting material to her students. At the outset, Julia had relied predominantly on Ppt presentations to organize her class and the delivery of information; she then later



recognized the need to address her teaching style by re-conceptualizing the delivery and organization of information for her students. Despite the size and set-up of the classroom, Julia also realized that if she came more to the foreground, as opposed to standing behind the media console, she would be able to develop her relationship with her students and have her presence as the instructor be more noticed by her students. After Julia became more comfortable with her students, she began to explore added portals to communicate information to her students. Ultimately, through this period of reflection, that lead her to become more relaxed in the classroom, Julia was able to enjoy her experience in the smart classroom alongside her students.

## **Chapter 6: Data Analysis**

### **PARTICIPANT 3: LIZ**

#### **Introduction**

Liz is the third of the four participants. I assigned Liz her pseudonym, since it reflects her “all-American” background. I checked her pseudonym with her (as I did with all the participants) and she did not display any objections to her name. I selected Liz through a mixed purposeful sampling strategy that combined criterion, convenience, and typical case sampling (see chapter three). Liz met all of the earlier established criteria, taught at a time that did not conflict with my schedule, and she was also a typical case representative of many of the graduate students at The University (TU) who teach in the Spanish Department as a Graduate Student Instructor (GSI) solely responsible for her two sections. Liz also further represented a typical case for TU, since she was enrolled in the Spanish Literature track, like many other graduate students who taught in the Spanish Department; and furthermore, Liz was in the final phase of completing her dissertation while searching for a tenure-track position as Assistant Professor of Spanish.

#### **Background and Teaching Experience**

Liz is a young female in her late twenties to early thirties, originally from the northeastern United States. Her first experience teaching was as a high school student. Liz had finished her cycle of Advanced Placement (AP) courses and one of her Spanish teachers had asked if she would like to help teach an innovative course, Liz agreed, and helped classroom teachers two to three times a week. In college, Liz was a volunteer

teacher of English, Math, Art and Physical Education (P.E.) in Latin America to street children of grades 1-10 while studying abroad her junior year. During her last year as an undergraduate student, she served as a Teaching Assistant (TA) in the Spanish Department of a small college from where she was granted her Bachelor of Art's degree in Spanish with high honors. Liz obtained her Master of Arts degree from a large public university in the southwestern United States in Spanish literature in 1999. At the same time that Liz was a full time graduate student, she was also a Graduate Assistant (GA) in teaching for the Spanish Department at her university. In the summer after graduation, Liz enrolled in intensive language course to improve her French.

During the data collection semester, Liz was completing her dissertation at TU in the Spanish Department while rounding out her sixth year toward attaining her doctoral degree in Spanish Literature from TU. Liz had been a GSI for five of the six years she was enrolled as a graduate student at TU. Liz was recognized during her final year as a mentor for her fellow graduate student colleagues.

In summary, Liz was a hardworking and highly motivated graduate student and GSI with experience teaching Spanish in university settings. She had also taught other classes outside of language classes in Latin America and in Europe. Liz was the recipient of many scholarship awards and was pursuing her professional career in Spanish literature as she worked towards completion of her doctoral studies. Liz had been exposed to several aspects of teaching during the ten years prior to data collection.

## **Experience with Technology**

When I first approached Liz to participate in this study, she reported that she integrated technology to some extent in her classes, making her an eligible participant according to the criteria. However, over the course of the first interview, Liz admitted that she did not see herself as a technology person and was not necessarily interested in technology.

Over the course of the semester and the interview process, Liz was outspoken about her preference in having a classroom with desks that were movable over being assigned a smart classroom. Prior to coming to TU, Liz had taught at a large public university in the southwestern United States. She reported that the classrooms were not as sophisticated as they were at TU:

They did have in some classrooms a television and they did have ... I'm trying to remember...and they did have overhead projectors (OHP). But it was pretty basic, I would often bring in a tape recorder and try to incorporate music that way, but it was not emphasized and again, the technology I think was just being instated in universities at a broader level, the university level. (Liz, Interview 1, p. 1)

According to Liz's recollection, this university was in the midst of transitioning to a more widespread use of technology. The above quote also serves to illustrate Liz's experience with technology, which at that point did not go far beyond the use of an OHP and a tape recorder.

At TU, Liz had a different experience with the use of technology in her classrooms:

And here, I've been using technology as it's been available and seen most fit. I don't feel completely competent using everything. I get scared when the machine

doesn't turn on right away. I don't like feeling...I don't like going to the classroom and being dependent on if the machine is working or not. That's what I don't like. (Liz, Interview 1, p. 2)

This excerpt underscores Liz's point of view in terms of her relationship with technology in her classrooms. She felt uncomfortable and clearly did not like feeling dependent on a machine and not in control of the situation at hand. However, Liz used the Blackboard (Bb) system at TU to post documents and announcements for her students and to communicate with students outside of the classroom meeting time with email.

During one of the interviews, Liz recognized the value of being able to inform potential employers that she was competent in the uses of certain technologies with her curriculum vitae (CV). She had noticed that many of the job announcements that were circulating through the Spanish Department's Listserv stated preferences for individuals that were proficient with technology. Liz interjected that technology in foreign language instruction was currently a hot topic. The job announcements and popularity of technology in education incited Liz to enroll in a series of free courses offered through TU Teacher Support:

I am getting certified in teaching with technology through TU Teacher Support. A lot of the schools that I am applying for ask for instructional technology. I am embarrassed with some of my lack of knowledge, so I signed up to learn the right way. I went to the first session this week on the uses of Blackboard. Most of what was taught, I already had figured out how to do on my own. A couple of aspects of Bb technology fascinated me and I would be interested in exploring them when I design my own courses in the future. (Liz, Reflection 5, p. 1)

These courses offered a variety of classes geared to inform and improve instruction through the use of technology. These courses were not only designed to address modern

technology use in the classroom, but also offered other information regarding classroom strategies. TU Teacher Support classes were open to all instructors who wished to enroll in the different modules covered. Liz admitted that some of the modules were repetitive, re-addressing information she already knew, for instance, how to use Bb. However, Liz also mentioned that she would like to further explore the discussion board feature of Bb which she had never used before.

As a graduate student, Liz felt very comfortable with Word Processing on the computer. She also communicated freely and comfortably via email with family, friends, and students. She admitted to never having used PowerPoint (Ppt) in presenting during her graduate school career and at the writing of this document was not sure how to prepare Ppt slides. In the past, Liz had used Excel for her grades, a requirement from another department where she obtained her Master of Arts degree. She was taught how to make basic modifications on the spreadsheet to accommodate different needs she may have encountered in the grade tabulation for different courses offered in the Spanish Department at her first graduate institution. AT TU, Liz used the GradeBook function on Bb to display and calculate student grades.

In summary, Liz did not see herself as a technology person; in fact, she stated that she felt very uncomfortable when the media console did not work. Although Liz would rather be in a classroom with movable chairs over being in a smart classroom, Liz also recognized the value of being able to portray to potential employers that she was certified to teach with technology. Once enrolled in the courses offered through TU Teacher Support, Liz seemed excited about the different options available to her through the use

of Bb. Her mindset in regards to technology and its place in the classroom seemed to shift gradually over the course of the semester.

### **Smart Classroom Set-up**

Liz taught in Everett Hall, an older building across the way from Peterson and Thornton Halls. Everett Hall contained mostly smart classrooms, although the computer console touch panel that controlled the console was not standardized from room to room. In fact, Liz mentioned that she was not comfortable with the fact that the media console set-up in the smart classroom observed differed from the smart classroom set-up in her other section of Spanish 4. She felt more comfortable in her other classroom in Everett Hall. When I took a closer look at the media console, I did find a different set-up to the technologies offered, the differing element was the addition of a DVD player to play movies and music. Liz also mentioned that she did not like the fact that she had to log in with a password every time she wanted to use the media console in the room observed.

The physical layout of the classroom was such that there were several banks of desks set on elevated tier seating that spanned the length of the classroom. The seats like the table tops were bolted to the floor. This impeded students from moving around the classroom freely once they were seated if Liz had wanted them to do group work with other students in the classroom, or take part in communicative activities with other classmates outside of those seated on either side. The total capacity of the classroom was of 70 students, allowing for up to seven students to sit at one bank of tables. Since the classroom was quite large, Liz asked her students to seat themselves in the first four to

five rows while class was in session. The console was set off to the side and front of the classroom. A traditional chalkboard was fastened to the front wall of the classroom. A full sized pull down screen was attached to clips above the chalkboard to pull down with a handle when needed.

What follows is a picture of Liz's smart classroom set-up in Everett Hall. The picture aptly captures where the media console was located as well as to where the students' attention would be drawn if the overhead screen was pulled down. Furthermore, the rows of desks with chairs anchored to the ground are depicted appropriately with the snapshot taken from TUs technology classroom website. The classroom also did have an overhead projector that was positioned off to the side next to the door.



Illustration 5: Photograph of Liz's smart classroom



The picture captured from the TU website, showcases one of the smart classrooms available to students and instructors. What is also clearly discernable from the picture captured is that the instructor, in this case Liz, did not have many options to move around the classroom to interact with her students. She could only move in front of the projection screen and up the stairs along the side of the classroom, rendering it virtually impossible for Liz to check in with every single student depending on where they were seated.

In summary, Liz's smart classroom set-up had a media console similar to other smart classrooms in Everett Hall, but was slightly different from Liz's other smart classroom. Liz seemed to feel that the other smart classroom, not the one observed, was more user-friendly. The picture captured earlier illustrates that Liz and her students were not able to move around the classroom as freely as they would have liked depending on the activities that Liz wished to carry out.

## **LIZ'S PHOTO ALBUM**

### **Section Introduction**

The three snapshots I chose for Liz's photo album showcase Liz's experience during the beginning (first and second week), middle (weeks five and six), and end (final exam week) of the 15 week semester. I selected these snapshots to address the first research question: How might instructors conceptualize or re-conceptualize their teaching practices when integrating technology into their curriculum?

## **Snapshot One: The First Few Weeks of Classes**

The first snapshot in Liz's photo album illustrates Liz's perceptions during the first few weeks of classes in terms of her teaching with technology in a smart classroom. Departmental requirements for the fall semester of data collection informed instructors, through the Spanish 4 course supervisor, that they should post departmental documents (i.e.: the syllabus and weekly schedule) on Bb, so that students could gain access to these documents and print them. These regulations were underscored during the first Spanish 4 meeting the GSIs attended. Liz followed these regulations and on the first day of classes, she had her Bb page up and available for students to see when they entered the classroom. I observed Liz on the first day of classes, which allowed me insight into how she set up her classroom expectations and introduced the use of Bb, where Liz posted documents to make them available to her students. On the first day, Liz carefully went over the syllabus and the weekly schedule with her students. In doing this, Liz established that Bb would be used in her classroom and that she expected her students to use Bb. However, although Liz was meeting departmental requirements by establishing the use of Bb in her classroom, she indicated her reticence to rely on Bb technology for her classroom in the following reflection:

In terms of technology, I think it is neither a benefit nor a detractor for presenting the syllabus and other course information. It doesn't matter if it is on a screen or on paper. It does take more time and does make me more nervous because there is not a paper back-up available for the students to look at. Sometimes I have not been able to make the consoles work, and I hate to be dependent on a machine. Also, some students are still not so familiar with the Bb system, so it took time away from the class to explain how to enter into Bb and find the documents. (Liz, Reflection 1, p. 1)

Liz felt uncomfortable using the media console in her classroom, because she was not able to make it function. Also, Liz felt that having to explain how Bb works to her students took away valuable classroom time that could be allocated to other activities. This excerpt taken from Liz's first reflection aptly highlights Liz's frustration with having to use the media console in her classroom and taking up valuable class time to show her students how to access the information. In this snippet, Liz mentioned that she did not like having to depend on a machine in her class, an element that added to her frustration, discomfort, and struggle with technology in the classroom.

During the first day of classes, Bb was used as a means to show students where to find the information they may need over the course of the semester, and to model to students that Bb was to be depended upon as a source of information with the announcements and email options. The smart classroom resources were not used in additional ways during the first day of classes. The document camera (doc cam), also a part of the media console in Liz's smart classroom, was not used. At this point in the semester, Liz did not yet seem aware of and comfortable with the availabilities and options her smart classroom with the media console presented to her. Instead of using the doc cam to display information from the textbook to her students, she highlighted the seven communicative elements covered in the book by holding the book in front of her. With the book opened towards the students, Liz pointed at different sections on the page with her finger. I sat directly behind the last row of students, and I could not discern with clarity what she was pointing at in the book. In fact, several students in the back row squinted at Liz's book as she began to make her way up the side steps of the classroom.

Liz did not make use of the doc cam to make the information more visibly accessible to her students.

Another glimpse into Liz's stance on the use of technology in her smart classroom came from the first interview conducted a few weeks into the semester:

I think it's interesting, just a general comment, with the job search now there is such a strong emphasis on technological competence and I don't really buy it. I don't buy that as what is the most important qualification of a good teacher. And I think it can be helpful, but is it particularly necessary, no. (Liz, Interview 1, p. 5)

During the beginning of Liz's job search, that also happened to coincide with the data collection semester, Liz did not concur with the idea that being technologically competent should enter as stringently into future employers' job search criteria as markedly as she was finding in the departmental Listserv job postings. Clearly Liz felt that there should not be as much emphasis on using technology in the classroom. She felt that there were other qualifications that can make a teacher a good teacher without having to rely on the use of modern technologies.

Although this was not observed during the first observation of Liz's classroom, she stated in the first two reflections that she did make use of the document camera during the first few weeks of classes.

Something I do like about the smart classroom is the fact that it eliminates transparencies, I like to be able to put the book up on the projector. It is also helpful to have the CD player. I put music on three times this week to simply create atmosphere. (Liz, Reflection 1, p. 1)

Not only did Liz use the doc cam to show students pages from the textbook, but she also used it to create classroom ambiance for her students. Furthermore, in Liz's second

reflection in the third and fourth week of classes, she stated that “I used the doc cam many times to put up activity instructions or exercises. This is probably my favorite feature about a smart classroom because I don’t have to worry about making transparencies” (Liz, Reflection 2, p. 1).

To summarize, Liz did meet the departmental requirements of posting pertinent information on Bb for students to access. In addition, Liz clearly set expectations that Bb should be checked and would be a source of information for her students. On the other hand, the quotation from Liz’s first reflection regarding the use of the media console, underscores Liz’s discomfort with technology and hesitance to depend on machines. Finally, Liz mentioned that she was not persuaded by the idea of having to be technologically competent for today’s job market; however, through the reflections Liz mentioned that she made ample use of the doc cam to display information and instructions to students, as well as relied on the CD player to create atmosphere for her classroom. These are elements that were only made possible and available to her through the media console in her smart classroom.

### **Snapshot Two: Mid-Term Time**

At mid-term time of the semester, approximately five to seven weeks into the semester, I found Liz struggling with the role of technology in her smart classroom. The two classroom observations I conducted during weeks five and seven found Liz highly relying on her smart classroom to plan and execute a class, juxtaposed against a class that only utilized the chalkboard as a conduit for information.

The class I observed on week five was planned entirely around a song by a contemporary Colombian artist *Juanes*. Although Liz was agitated and voiced her concerns several times about getting the media console to work, she was able to play the audio CD she had brought from home and switch to the doc cam to display the lyrics of the song with blanks for the subjunctive mood verbs. Liz had brought a portable boom box to class, because she had tried to play an audio CD in that classroom before and it did not work. I approached Liz at the beginning of class when she was noticeably agitated, and she explained the situation to me. She was prepared to use the boom box, but she knew it would not be loud enough for her students. I interjected that she could use the DVD player under the console to play the audio CD and showed her how. Liz was still nervous and when she reached that segment of the class she commented to her students that the activity might not work. When she clicked the play button, the music came out loud and clear. She switched the console to the doc cam and she began explaining the key portions of the lyrics displayed to her students on the overhead screen (Liz, Field Notes 2, p. 1).

Juanes' song entitled *A Dios le pido* (Translation: To God I ask), was used to tie in the subjunctive mood, religion, as well as socio-political struggle among certain peoples in Colombia. There was a high level of energy and enthusiasm in the classroom thanks to the music chosen by Liz. This class is described in sharp contrast to the class observed two weeks later, during week seven, in which the media console of her smart classroom was not touched. Liz made use of the traditional chalkboard to explain grammatical structures. She also had students refer to the textbook when practicing vocabulary. Liz

had prepared a vocabulary activity before class that involved giving a strip of paper to every student so that they could define the word on the paper in Spanish, the target language (TL). The class observed during week seven was used to promote oral practice among students and to have students practice the vocabulary for the chapter.

Later, during the second interview conducted at the mid point in the semester, I asked Liz what her comfort level was in using the technology in her smart classroom.

Liz immediately referenced the class I had observed and responded:

I've gotten better with the screen. Before I had a hard time sort of switching from the computer to the overhead to the VCR and I would get all confused and the projector wouldn't turn on all the time, and I would think I was doing something wrong and now I understand it a little bit better. Last semester I also had a smart classroom and I got very frustrated. I think with time I am understanding it better, as you were there that one day, because the technology isn't always the same I get confused still. Now that I know that there's actually more or less the same thing, but in different forms, that kind of takes me a while to navigate, so it's fine. It's interesting to use some of these things. I really like the doc cam because then I don't have to make transparencies...that's probably my favorite thing. (Liz, Interview 2, pp. 4-5)

The excerpt highlights Liz's growing level of comfort with the technologies at her disposal, but at the same time brings to light her frustration from the past and her confusion at the time this snapshot I took.

The reflection I wrote after visiting this class stated that "even without the use of technology per se in the classroom, it is still a successful class. Liz is using the chalkboard as a medium to show students certain elements; otherwise, the majority of the class is simply oral practice" (Liz, Field Notes 3, p. 2). This observation is offered to provide sharp contrast to the second observation in which Liz struggled with the CD player and used the doc cam to show the song sheet with blanks. The energy levels in the

two different classes were quite different at the mid point in the semester. Although Liz did not appear to be struggling with her role as the GSI for the class, she did deliver two entirely different classes. In Bax's (2003) terminology, technology integration was not yet "normalised."

In summary, Liz relied on technology during week five to introduce students to new material, and at the same time she integrated culture, vocabulary, and grammar. The smart classroom supported Liz as a source of input for the students. During week seven, when the new topics were being practiced, Liz relied on the traditional chalkboard and her own paper exercise. During this mid-term time, Liz struggled with *how* and *when* to incorporate the resources presented by the smart classroom.

### **Snapshot Three: The Last Few Weeks of Classes**

Due to time constraints, I interviewed Liz during the exam week that follows the last week of classes. At this point in the semester, I found Liz in an introspective mood that allowed her to look back at the fall of 2005 semester and evaluate the role of technology in her smart classroom. She also looked ahead and began to conceptualize how she might begin to incorporate other uses of media in her classroom. In the end, Liz found that there were some advantages to using technology and in fact decided that she should enroll in the extra courses offered to TU students to see if she could incorporate new elements into her teaching practices. During the last few weeks of observations, Liz did seem to feel more at ease using the media console, and did use the doc cam, the Internet, and the CDR drive more often than in the beginning. Liz added in her third



interview that technology did have the capability to support teaching as depicted by the following excerpt:

It means a support for regular student-teacher relationships and an extra resource for culture, and sometimes even communicative activities, for bringing in other elements that otherwise one would have to come up with maybe in a more difficult form, preparing slides or doing a lot more library research, but I think of it as basically a tool that can be supplementing normal teaching. (Liz, Interview 3, p. 1)

Here, Liz illustrates that one must be careful and use technology as a tool to support “normal teaching.” Upon deep reflection, Liz argued that technology should and must be used wisely and with discretion. Bax (2003), Salaberry (2001), and Warschauer (2000) pushed for the need for technology to serve as a support for teacher objectives in the classroom and should be tied into the “pre- and post- activities” planned for the lesson (Salaberry, 2001, p. 51). Liz found that technology was a valuable resource to help communicative activities and to bring in other elements that could enrich her class.

Liz had enrolled in a series of classes to determine if there were additional elements that she could add to her teaching practices. Liz had a definite mind-set as to how the class time should be used and wished to find other ways to enrich the experience for her students, as depicted in this excerpt:

I think that the class has to be used for interactive activities because students really want to be using the language with other human beings, so if there are certain ways of, for example, a discussion board might be an interesting way to get students to interact with each other and not just the screen. I don't know if there's a space for it right now in fourth semester Spanish, but I would be interested in exploring that when I get my own job and can design my own courses. (Liz, Interview 3, p. 3)

This citation markedly underscores that the Bb functions available to instructors and students could be used in added ways; however, of key importance is that Liz began to re-conceptualize how technology could be used to attain certain goals in a language class thanks to the courses offered by TU Teacher Support. Furthermore, Liz was able to recognize the value of certain technologies at her disposal in her classroom could hold for her and her students. By extension, she would be able to tie Bb into other facets of her class, integrating technology and also incorporating different skills in her teaching, as students aim to reach higher levels of proficiency in their target language (TL).

To summarize, Liz realized that there were other means available to her and her students that could still be explored in future semesters, and even in her future job. She would be able to take a new skill set with her to her new place of employment, skills she had gained while at TU. Furthermore, Liz recognized the value her smart classroom held for her as long as it was used to support the instructor in the delivery and management of the class. Liz's favorite element in the smart classroom was the doc cam that she used consistently during the final observations as part of her classroom practices. Liz also articulated a desire to explore other options Bb had to offer through the discussion board and chat options available to those registered in the class. She recognized that Bb could offer more interactive possibilities for her students.

## **CHAPTER SUMMARY**

Albeit Liz did not initially feel comfortable incorporating several aspects of the technology available to her through the media console in her smart classroom, she did

follow departmental requirements to use the Blackboard system (Bb) to post the syllabus and weekly schedule. Liz stated that she did not “buy into” the notion that one had to be experienced with and technology, a skill and interest expressed by many potential employers. Over the course of the semester Liz still vacillated between using technology to support her instruction in her smart classroom and not using any modern technology, as shown in weeks five and seven in the second snapshot. Towards the end of the semester Liz had decided to enroll in TU Teacher Support classes, a series of courses available to instructors at TU to enhance their teaching. A few of the individual modules highlighted the use of the Bb system at TU and how to take full advantage of Bb functions.

During exam week, after the fall 2005 classes had ended, Liz found herself looking ahead at other ways to incorporate technology into her class with the aim of achieving a more interactive experience for her students. Even though Liz had been teaching for close to ten years, in a variety of settings, she did feel nervous about using certain applications in the beginning. At the close of the semester, Liz’s confidence grew, as well as the repertoire of media she used to support her instruction.

## **Chapter 7: Data Analysis**

### **PARTICIPANT 4: SOPHIE**

#### **Introduction**

Sophie is the last of the four participants I describe in the multiple case portion of this study. I assigned this participant the pseudonym of Sophie in an attempt to capture her international graduate student status at The University (TU). I selected Sophie through a mixed purposeful sampling strategy that combined criterion, convenience, and typical case sampling (see chapter three). Sophie met all of the earlier established criteria, taught at a time that did not conflict with my schedule, and furthermore, she was also a typical case representative of many of the graduate students at TU who teach in the Spanish Department as Graduate Student Instructors (GSIs). Sophie made a typical case, not only because of her graduate student standing, but also because she followed TUs required steps, in order to become one of the GSIs fully responsible for a class.

#### **Background and Teaching Experience**

Sophie, like Julia in chapter five, is the other of the more novice Spanish 4 instructors in the Spanish Department at TU. Sophie came to the United States in 1998 in order to pursue her undergraduate studies at TU. Sophie is a young international woman in her mid to late twenties. At the undergraduate level, Sophie majored in both German and Spanish and graduated with departmental honors in 2002. In addition to English, Sophie speaks several languages fluently. During the spring of 2002, Sophie participated

in teacher training courses at local elementary schools where she taught beginning German and Spanish.

Upon receiving her Bachelor of Arts degree from TU, Sophie immediately enrolled as a graduate student and obtained her Master of Arts degree in Foreign Language Pedagogy in 2004. Sophie's graduate student status and honors status in the German Department made her immediately eligible to become a Teaching Assistant (TA) in the Department in 2002. Sophie's Master of Art's thesis explored the integration of technology in schools in her home country. As a TA in 2002, Sophie was exposed to assisting professors in smart classrooms, but was never solely in charge of the class, and thus had not yet conceptualized her own lessons in a smart classroom.

Upon completion of her Master of Arts degree in 2004, Sophie was accepted to and enrolled in the doctoral program in Foreign Language Pedagogy (FLP), the same program in which Florencia was enrolled (see chapter four). As a doctoral student in FLP, Sophie became eligible with her Master of Arts degree and teaching experience to teach as a GSI in the Spanish Department. Before data collection began, Sophie had been a GSI for the Spanish Department for the year prior to data collection. Sophie had taught Spanish 3 and 4, in fact, she asked to be switched to Spanish 4 after one year to gain additional experience at a more advanced level of language instruction. Sophie, a self-starter and highly motivated instructor and graduate student, authored and contributed many course materials to the various sections she taught. Sophie always requested to be switched to a smart classroom at the beginning of the semester if one has not been assigned to her.

In summary, Sophie had been a GSI for almost one and a half years by the end of data collection. She and Julia shared the status of the most novice instructors among the four participants. Sophie and Florencia were doctoral students in FLP at the same time data collection took place. Since Sophie's Master of Arts thesis addressed technology integration in classrooms in her home country, and because Sophie always requested a smart classroom at the beginning of the semester if she was placed in a non smart classroom, she was the only participant for this study whose research interests aligned with the topic of technology integration in foreign language teaching and learning.

### **Experience with Technology**

Sophie was the only participant who consciously integrated technology into her instruction. Sophie always requested to teach or be placed in a smart classroom, and would even teach in two classrooms that were geographically at great distances from each other, if it meant that she would be assigned to a smart classroom. Sophie was exposed to technology in foreign language learning and teaching. In addition, Sophie had enrolled in several graduate classes that focused on differing aspects of technology in foreign language pedagogy. As a graduate student in some of her classes Sophie had constructed a website and had participated in theory and practice around Computer Mediated Communication (CMC).

Sophie felt extremely comfortable participating in chat rooms, Instant Messaging, and communicating via email. Since Sophie's family did not reside in the United States, she communicated via email with her mother frequently, and explored different avenues

to improve their communication. One of these attempts led to the use of a web cam; however, they realized that the quality and hassle involved at that point was not worth exploring further. In Sophie's first interview, she reported that her parents bought her a computer when she was in fourth grade, which she claimed was not a usual thing to do in comparison with other families in her home country. She admitted that she was the only one of her friends to have the advantage of owning a computer. Sophie also used various and sundry computer software applications and enjoyed surfing the web for personal and instructional purposes. Sophie also used Word Processing frequently as a graduate student at TU.

In summary, Sophie was the only one of the four participants who acknowledged fully that she integrated technology into her teaching in her smart classrooms. She reported that she incorporated technology into her teaching practices armed with the background knowledge in the subject area of technology integration. Technology integration also aligned with Sophie's areas of interest and research, since her thesis topic explored technology integration in schools in her home country: Sophie also continued to take classes that addressed some aspect of technologies and language instruction. Sophie, an international student, was also one of the more novice instructors, since she had been a GSI for the Spanish Department for a little over a year at the point of data collection.

## **Smart Classroom Set-up**

Sophie, like Florencia and Liz taught in Everett Hall, an older building across the way from Peterson and Thornton Halls, where the Spanish Department was housed. Sophie was not assigned a smart classroom for the fall 2005 semester and when she requested a room change, she was assigned a smart classroom at the opposite end of campus. This was complicated by the fact that she taught both classes back to back, which did not allow her much time to arrive at her second class on time. Since Sophie barely had enough passing time, she requested to be moved to a smart classroom closer to her other section of fourth semester Spanish. She was granted her smart classroom in Everett Hall during the second week of classes.

The physical layout of the classroom was similar to Liz's smart classroom described in chapter six. Most notable about this classroom was the banks of desks on elevated tier seating that spanned the length of the classroom. The seats swiveled slightly in sets of two and like the desks, were also bolted to the floor. One seat per row swiveled independently of the rest. The total capacity of the classroom was of 70 students, this allotted for several rows of up to seven students to sit at one bank of tables. The console was set off to the side and front of the classroom. A traditional chalkboard was fastened to the front wall of the classroom, from where a full sized pull down screen was available. Another chalkboard covered the expanse of the north side of the classroom.

The physical layout of the classroom was such that an instructor's movement in the classroom was limited to the front and side of the classroom. On occasion, Sophie was able to navigate the small space between the tables to initiate more personal contact



with the students. Not only was it difficult for Sophie to move around the classroom to gain access to her students, but students were also not able to work very easily in small groups that would favor a student-centered collaborative approach to teaching. The picture that follows was Sophie's smart classroom, captured from TUs technology classroom website:



Illustration 6: Photograph of Sophie's smart classroom

The smart classroom picture captured aptly portrays the limitation of Sophie's movement around the classroom. The placement of the media console was easily accessible to Sophie when she was at the front of the classroom; however, the layout of the classroom hindered movement by Sophie and students.

In summary, Sophie's smart classroom set-up had a media console similar to other smart classrooms in Everett Hall. The picture captured illustrates that Sophie was not able to move around the classroom as freely as she would have liked. Sophie's smart classroom was housed in Everett Hall, an older building updated to include the smart classroom pictured earlier.

## **SOPHIE'S PHOTO ALBUM**

### **Section Introduction**

The three snapshots I chose for Sophie's photo album showcase her experience during the beginning (second week), middle (weeks seven through nine), and end of the 15 week semester, in order to address the first research question: How might instructors conceptualize or re-conceptualize their teaching practices when integrating technology into their curriculum?

### **Snapshot One: The First Few Weeks of Classes**

The first snapshot I took was from Sophie's reflection during the first two weeks of classes. During the first few weeks of classes is when classroom instructors generally set the tenor for classroom expectations with their students, as well as exemplify how their classes will operate. The following snippet from Sophie's first reflection highlights the foresight and conceptualization Sophie had in place before the semester of instruction even began. Sophie felt that it was important to make sure her Bb class page aligned with what she felt was reflected on the departmental syllabus for Spanish 4.

I had prepared the Blackboard site of the course before the first day of class, and I was planning to log on to the site on the first day of class and show the site to the students. Given that the course syllabus itself emphasizes that Blackboard and e-mail will play an important role throughout the semester, I wanted to provide the students with a visual demonstration of Blackboard and its functions, while going over the syllabus. I found out however before the first day of class that the rooms I would be teaching in would not be smart classrooms, and even though I was frustrated at first, I decided to overcome that frustration and come up with other solutions. (Sophie, Reflection 1, p. 1)

Sophie made it clear to her students and to me that Blackboard (Bb) would play an integral role in her class by setting up her Bb before the first day of instruction began. Sophie was met with a stumbling block; she was not able to show her students how to navigate the Bb site she had set up. Sophie was frustrated by not being assigned a smart classroom, but took matters into her own hands.

I evidenced the use of the smart classroom and the availability of technologies to support her teaching during the first few weeks of classes. Sophie had filled out the required form in order to have her classroom changed to a smart classroom and checked repeatedly to find out what progress had been made in her case, so that she could notify students in person and via email communication. Sophie was assigned a smart classroom in the engineering building. While this accommodated her wish to have a smart classroom, it was difficult for Sophie to arrive to her next section of Spanish 4 on time.

The first time I observed Sophie was in the engineering building, the second classroom to which Sophie had been assigned for the data collection term. The observation consistently depicted the same information Sophie relayed through the reflection. The following data is from the field notes taken during the first observation:

- 2:01 Sophie arrives in class happily greeting all her students in a very nice way. She arranges the console to make it more user friendly. She passes around the attendance list and asks students how the weekend was. She interacts with some students who dare to answer. The screen flickers on. She tells the football fan that class has started. He doesn't seem to understand much. Sophie actually talks about the game with the students.
- 2:05 We're going to start with "*Hablando del tema.*" Students continue to straggle in. Sophie lowers the overhead screen and puts "*Hablando...*" up on the doc cam. She divides the class up in a different way to ask each other questions for the exercise. While students are talking, Sophie zooms the doc cam into focus.
- 2:11 You all have finished with your partner. What should you do when your partner is done? Correct your classmates to prepare themselves better. Rotate!

*While students are asking each other questions, Sophie goes onto Bb and then turns the screen off. She seems to feel quite comfortable handling the computer console. She brings up hablando del tema on Bb. She changed her mind between the doc cam and Bb and put the same document up in a different format. (Sophie, Field Notes, p. 1)*

The field note snippet accurately reflects Sophie's ease of using the media console, accessing Bb, using the doc cam, and setting up the classroom so that the information could be displayed on the overhead screen.

Sophie petitioned for yet another change of classrooms so that she could be assigned a smart classroom that would be geographically closer to her other section of Spanish 4. By the end of the second week of classes, she relocated her class to her third classroom for the term, as depicted in Sophie's first reflection as follows:

I was relieved to find out a few days ago that my request for smart classrooms had been approved and that I had received smart classrooms, and I was very happy last Friday when I finally got a chance to demonstrate to the students a lot of the things on Blackboard that I was just referring to during the previous classes. I got nervous at some point when I was getting ready to download from Blackboard an

exercise I had prepared for the students and the computer crashed, and I could not reboot it, but based on past experiences of the technology failing while in class, I had a back-up plan: I had brought with me a hard copy of the exercise and used the DocCam so as to show it to the students! I find that it is always a good idea to have a plan B when using a smart classroom, in case something goes wrong with the equipment!! (Sophie, Reflection 1, p. 1)

The excerpt lifted underscores the relief Sophie felt when she received her smart classrooms. She finally was able to demonstrate to her students what she expected of them on the Bb page she had set up for them. Furthermore, Sophie also displayed that although she did feel uncomfortable using certain applications on the media console in her smart classroom, she was prepared with a plan B for her class. Unfortunately, the equipment did malfunction, but Sophie was able to use the doc cam to display the information she would have otherwise displayed from a similar document on Bb. This excerpt also serves to illustrate that Sophie, while connected to the theory of technology integration and best teaching practices, could still experience a certain level of anxiety while using the equipment.

In summary, Sophie planned her Bb page ahead of the first day of classes so that she would align her classroom expectations with the syllabus (Appendix E) presented to her by the supervisor. Sophie was not assigned a smart classroom, so she quickly followed the proper channels so that she could secure a smart classroom. She was first assigned a smart classroom in the engineering building, which was too far from her next section. By the end of the second week of classes, Sophie had a smart classroom that was closer in proximity to her second section of Spanish 4. In most cases Sophie handled the

media console with ease. When the equipment malfunctioned once, she had already planned ahead and had a backup in place.

### **Snapshot Two: Mid-Term Time**

During the mid point of data collection for the fall of 2005, Sophie remarked that she had reached a plateau in terms of the use of technology in her classroom. Sophie's classes were consistently organized in the same fashion. In glancing at her lesson plans, I found that she frequently had seven to eight items that she would attempt to address during her classes. Her lesson plans mostly consisted of reminders to herself to check in with students about composition topics and movies to be watched, as well as what types of follow up questions she could ask her students while reviewing certain topics from the book. Sophie's lesson plans did not typically make mention of using certain aspects of the media console in the smart classroom to deliver the information, yet she did use the doc cam or Bb to project the majority of the information mentioned in her lesson plan. In her case, she was approaching the seamless use of technology espoused by Bax (2003), Salaberry (2001), and Warschauer (2000).

For Sophie, the tedium of how she was using technology to support her instructional goals did begin to increase, as reflected by the following snippet taken from Sophie's fourth reflection:

While thinking about this reflection, I realized that during these three weeks I had a kind of "plateau" in the sense that I used the technology in the same ways that I have already described in my previous reflections – for demonstrating documents on Bb, for projecting activities already posted on Bb, for playing music, for reading something out of a newspaper, for showing the students useful websites in regards to the content of the day's topic, and for demonstrating "model" mini-

compositions by using the DocCam. Given that the course is designed following a specific format for each chapter, looking back now, I feel that these three weeks I have done pretty much the same things with technology to fulfill a specific task that is repeated every chapter... everything else has been a repetition of all the other uses of technology I have described in my previous weeks of teaching – I need to do something new soon!! (Sophie, Reflection 4, p 1)

Although the quotation: “I need to do something new soon!!” underscores the monotony Sophie felt in not using the new features her smart classroom had to offer, Sophie had developed a routine upon which her students could depend. This excerpt further highlights that Sophie was consistent with her use of new technologies made available to her through the media console in her smart classroom. Sophie’s interest and experience with teaching with technology gave her the background to have her reach this comfortable plateau early on in her teaching career at TU. Even though this was only the beginning of her second full year of teaching as a GSI for the Spanish Department, Sophie seemed to master modern technologies she had begun to use during her teaching. She wanted to and was prepared to attempt something new.

Sophie wished that she could add varied elements to her teaching practices at the mid point in the semester, and so she decided to explore a new function she had discovered on her own on Bb.

Towards the end of the 9<sup>th</sup> week, the only new thing I did, is that I used a feature on Bb that I had not used up to that point in the semester; the feature called “Groups”. The students signed up for group cultural presentations, so through this feature of Bb, I created groups based on the groups that the students formed when they signed up. Through that feature each group can communicate using the Discussion Board, through group e-mail, and can also exchange files or post files on Bb; this will be useful as each group needs to prepare PowerPoint presentations for the cultural presentation, and they can therefore upload their presentations there. (Sophie, Reflection 4, p. 1)

This excerpt highlights Sophie's desire to attempt something new to facilitate communication with her students, and at the same time, make it more feasible for students to share information and post the desired information onto Bb. With this innovation Sophie expanded her teaching practices in light of her use of Bb in the smart classroom. The discussion board forum and the group presentation folders Sophie created allowed Sophie to overcome the plateau she expressed she was undergoing during her reflection in the middle of the semester.

Although Sophie continued to push herself to incorporate new elements into her teaching practices, she did encounter times when she was not comfortable using the technology. In these cases, Sophie was able to think of an alternative; this point is illustrated in Sophie's second interview during the middle of the semester:

Sophie: I feel very comfortable given that I know the equipment, but the first semester that I was teaching I wasn't feeling comfortable because I didn't know how to use it. So after the first two or three weeks when I experimented with it, I was more comfortable, but now that I know how to use it I'm okay. It's usually before the semester I go to the classroom before the semester begins and make sure that I'm familiar with the equipment, that it's the same console and everything. So now I'm okay, I'm really comfortable using it. Of course when something happens during class, when something's not working, I feel like I'm getting a bit agitated, but I already have in mind something else to do. It's as if I go prepared for the worst, which doesn't sound good...

*Interviewer: So you go prepared for the worst for every single class you teach when you're going to use technology to support you?*

Sophie: Generally yeah. Not every single time, like it happened that I wished I had a transparency with me to put on the overhead projector (OHP) because the OHP was not working. See, in the past I always assumed that the computer would not be working, so I counted on the doc cam to work on that, but when the projector was not working one day, I had no plan to use the OHP. The next day I did bring transparencies just in case. But... (Sophie, Interview 2, p. 2)



In this excerpt, it is clear that even Sophie with her background and experience with integrating technology into foreign language instruction experienced moments of unease with the equipment. Through these instances, Sophie learned that she should try and plan for an alternative backup plan when possible, forcing herself to continuously re-conceptualize her lesson plan for delivery in another format. Unfortunately, Sophie's backup plan in some cases was another technology offered through the media console, which did not take into account that the projector would not work. For a few days after this situation, Sophie took transparencies with her to use the overhead projector (OHP), a more traditional technology, to serve as backup, until she realized that the media console and projector had been returned to working order.

During the second interview, conducted at the midpoint in the semester, Sophie shared her lesson planning conceptualization with me in terms of integrating technology into her classroom. The following vignette from the interview highlights her process:

Sophie: Yes. I either have it in mind that I want to bring in a website, like for example when we were doing a lesson at the beginning of the semester that had to do with Geography. I could've just brought in a transparency with a map of the country, but then I really (emphasis in original) wanted to have something more interactive, so I made it a point to go online and find a website. And other times I know a website that's really really good, so I try to arrange things around it so that it becomes part of the lesson plan and it makes sense, it's not like something "I have this website, let's see" and move to something else, because then what's the point of doing that if it's just a show and tell. (Sophie, Interview 2, p. 6)

This excerpt underscores *how* and *why* Sophie used websites to support her instruction.

She made a clear distinction between "show and tell" and having the website be integrated into the lesson, so that it supported the lesson and goals she had in mind.

Furthermore, this excerpt also emphasizes the distinction between simply displaying a website or map on a transparency, and having an interactive element.

To summarize, Sophie reported that she was not doing anything new in her smart classroom between weeks seven and nine during the fall 2005 semester. She claimed that she had reached a plateau, since she was not doing anything new. However, Sophie's use of Bb, the doc cam, and the CD ROM drive to play music and movie clips was consistent with her usage in the beginning of the semester. Sophie wished to add something new to her teaching practices with technology, and used a new feature on Bb she had not yet used in her prior experience teaching at TU. Sophie did encounter some snafus that demanded use of the doc cam as her backup plan, until she realized that the projector was not working. Sophie was agitated, but was able to think of an alternate means of delivery spontaneously.

### **Snapshot Three: The Last Few Weeks of Classes**

The end of the semester brought about some changes in Sophie's lesson planning. At the mid point Sophie had wanted to incorporate some new elements, in terms of the options made available to her through her smart classroom, and had already used a new feature on Bb during week nine. As the semester drew to a close, Sophie realized that she needed to meet one of the goals she had set for herself, which was to attempt to incorporate the use of DVDs into her classroom practices. The following excerpt emphasizes Sophie's desire to add another element to her teaching practices:

Of course, the fact that the chapters follow the same format is indeed convenient, but it's not my nature as teacher to just count on that and keep offering my students the same things! I like to have variety in the classroom, and use different means in my teaching, since I know that I have students with different learning styles and I want to appeal to all of them. Therefore something new that I implemented during these past two weeks was to use two DVD's – two movies – to show them some clips on the “*tango*” and “*Carlos Gardel*”, which was part of the cultural section in the book. I was very excited about this activity, because I had set this as a goal for me for this semester – to bring in a DVD – and I wanted to do it at a point in the course when it would make sense to bring in such material, it would be educationally valuable to my students, and it would fit in the Calendario, without taking up time from something else (the Calendario is quite strict, and there is not much room for deviation from the material that should be covered!). (Sophie, Reflection 5, p. 1)

In this case, Sophie was attempting to break the monotony of the book layout and incorporate a new element. Sophie was very excited about this added element that she would be able to add to her class, but realized the importance of integrating the DVDs to her lesson only when it would “make the most sense.” “Hence, teachers are expected to delineate clearly specific pedagogical objectives in order to select the appropriate tool” (Salaberry, 2001, p. 51). Furthermore, Sophie found that use of DVDs in her classroom to present culture tied in with the chapter, and at the same time, enhanced students understanding. In effect, teachers of foreign languages should urge teachers to incorporate modern technologies in the teaching of culture that would go beyond mere entertainment value and may even serve “for enhancing other skills such as listening or speaking” (Moore, Morales, & Carel, 1998, p. 119).

The execution of Sophie's lesson plan took additional time and effort, since Sophie had to think strategically in order to incorporate the DVDs at a point in the semester that would best support her teaching and not use the technology for

technology's sake. Even though the *calendario* (Translation: calendar) was strict for Spanish 4, Sophie planned ahead in order to incorporate clips from two movies as evidenced by the following snippet from Sophie's last reflection:

I planned ahead to use two movies – one called “Tango bar”, that is considered to be one of the “classics” when it comes to Carlos Gardel, and one called “Tango” that is a recent movie and it revolves around the dance and music of tango. The day before carrying out my lesson, I went to the two classrooms that I teach and I made sure that the two DVDs were working, that the computers had the appropriate programs to play the movies, and that the sound and picture was good and clear. The night before, when I was preparing my lesson, I spent quite a lot of time on the lesson planning, since I played both movies at home and watched them scene by scene, because I wanted to find the scenes from each one that would be the “best”; meaning that they would be the most representative of the material that I wanted my students to see, and the most appropriate for them given always my limited amount of time in class!!!...The lesson turned out to be successful I think, everything – technology wise – worked out fine, and my students seemed to enjoy the movies, the music, the dance. Some of them referred to the movies during the remainder of that week, which I thought was great, since they must have liked the experience so as to refer to it later on!! Overall I felt really good about this lesson, and I was even more gratified that my students enjoyed it as much as I did, even though it took more time in my preparation, than the usual lesson!!! (Sophie, Reflection 5, p. 1)

This reflection aptly portrays the amount of time Sophie had to spend in order to plan the delivery and execution of this lesson. Although I was not able to observe this class, Sophie commented that she was very happy with the execution of her conceptualization. Of particular importance, in light of the first research question, was the conceptualization of the lesson plan, since this was the first time Sophie planned to carry out this particular lesson, she would need to conceptualize the lesson for the first time for delivery in her smart classroom; however, Sophie mentioned that she had to view both movies at home to select the appropriate scenes. Sophie reported that while she viewed the films, she constantly evaluated and re-evaluated her choices of the most appropriate scenes for her

class, in order to choose the most representative and appropriate materials for her students.

In summary, in the end of the semester, Sophie accomplished one of the personal teaching goals she had set for herself at the beginning of the semester, to incorporate DVDs into her teaching repertoire. Sophie knew that she would only show clips from movies if she believed that they met levels of appropriateness for the topic under study. Although the process of planning and viewing the films ahead of time was time consuming for Sophie, she found that her students enjoyed watching portions of the films in class, and deemed the class a success.

## **CHAPTER SUMMARY**

Unfortunately, although Sophie wanted to create change, she did encounter some stumbling blocks along the way. Sandholtz, Ringstaff, & Dwyer (1991) argued that “in many instances staff members’ inner struggles were compounded by the inflexibility of the contexts in which they worked” (p. 50). Even though the syllabus was seemingly inflexible, due largely in fact to the great number of GSIs in the Spanish Department, and the need to maintain uniformity across each level, Sophie was able to find space to add film clips to support her teaching. Sophie overcame the seeming rigidity of the course syllabus and found a creative outlet that could better highlight the teaching of culture for the chapter covering Argentina. Other challenges Sophie encountered were simply logistical constraints due to the unavailability of her smart classroom in the beginning of the semester, followed by the geographical distance between her two smart classrooms

once she was assigned a smart classroom. Additional constraints Sophie encountered were learning how the media console worked and that appropriate applications were available on the computer for her teaching needs.

Since Sophie's course of study involved the integration of technology into the teaching of foreign languages, having and using a smart classroom played a major role in Sophie's execution of her lesson plans. For Sophie it was essential that she be assigned to a smart classroom. She made the attempt and pursued the appropriate channels to secure a smart classroom for the term of instruction. Furthermore, Sophie had written a thesis on the integration of technology in her home country in Europe, and was therefore well informed in terms of the theory that supported the use of technology in the foreign language classroom. Sophie had also taken many classes as a foreign language student at TU, and had enrolled in graduate studies in FLP at the Master of Arts and doctoral level to pursue the integration of technology as applied to foreign language teaching and learning. Having taken classes with and read the theories espoused by researchers, Sophie realized that she needed to constantly evolve as a teacher as she continued to learn, incorporate, and apply new theories into her teaching practices.

## **Chapter 8: Data Analysis for Question Two**

### **CHAPTER INTRODUCTION**

Chapter eight addresses research question two through a cross-case analysis of the four participants. I chose the cross-case comparison method to highlight several commonalities among the participants that I selected through purposeful sampling to represent typical cases at The University (TU). This chapter addresses the second research question: What challenges do instructors face when integrating technology into their curriculum?

In order to provide an organizational scheme for the cross-case analyses present in this chapter, I organized the findings under three main categories. The heading I chose for each of the categories serves to highlight the data subsumed under each category that addresses the challenges the four instructors faced when using technology in the smart classroom. The subheadings under each category illustrate the findings or subcategories. The cross-case analysis begins with an introduction and ends with a chapter summary. The summary brings the chapter to a close and at the same time serves to highlight main findings of this chapter.

### **CROSS-CASE ANALYSIS FOR QUESTION TWO**

#### **Section Introduction**

This chapter contains a cross-case analysis of the four participant, Florencia, Julia, Liz, and Sophie. I triangulated the emergent themes across cases; however, there are a few instances in which the emergent theme was not visible across all cases, but was

discernable across two or three of the participants. I organized the emergent themes under three main categories: (1) inadequate GSI preparation, (2) technological constraints, and (3) technology mediates information delivery.

## **Findings**

1. Inadequate GSI preparation
  - Lack of training/professional development
  - Lack of “know-how” to integrate technology
  - Lack of time
    - Absence of time in instructor’s schedule
    - Actual use of equipment in class as time-consuming
    - Absence of time in course calendar
  - Technology anxiety
2. The smart classroom presents constraints
  - Unfamiliarity with the equipment/equipment is not standardized
  - Equipment malfunction/Technical difficulties
  - Limitations of web-based classroom management software
3. Technology mediates information delivery
  - Inferior quality of research presented due to easy access to information
  - Ppt constraints
  - Technology takes center stage



## **CATEGORIES REGARDING CHALLENGES IN SMART CLASSROOMS**

### **1. Inadequate GSI preparation**

Instructors are not often as prepared as they would like to be when they enter the classroom for the first time. At best, these instructors will be able to rely on their methods class, classes they have assisted in but not been solely responsible for, and how they have been taught in the past. This category is subdivided into three subcategories which are: lack of training/professional development, lack of “know how” to integrate technology, and lack of time.

#### ***Lack of Training/Professional Development***

Florencia, Julia, and Sophie found that they lacked professional training and/or development in terms of being able to use the technology available in their smart classrooms. However, this was not a surprising finding since Moore, Morales, & Carel (1998) found that, after conducting a state survey, teachers were ill-prepared to use technology to teach culture in the classroom. Whereas I would say that in this particular case, the instructors were not necessarily ill-prepared to use technology in the classroom to teach culture, they did in some cases lack the “know-how” in regards to the equipment. The following excerpt highlights Florencia’s discomfort in using word applications on the computer.

When I wanted to show the pictures, I could not figure out what program to use to show just the pictures and not the songs that were part of the presentation too. I asked students for help and one student figured out how to do it. It was apparently very easy, but I am not very “gifted” with computers. (Florencia, Reflection 2, p. 1)

Here Florencia relied on the presence of her students to assist her in the final execution of this lesson. However, this situation does not seem to be as serious as the experiences that Julia and Sophie underwent as novice GSIs in the department.

Julia did feel comfortable, to a certain extent, with the equipment she would be using in the smart classrooms; however, she did not have the same teaching experience some of the other GSIs had before coming into the classroom. Julia's struggle was that of a novice teacher who wished she had more "hands on" experience outside of the methodology class she had to take.

Julia: Okay, TU. Well as someone who didn't have teaching experience before I started teaching, there's not a lot as far as teacher training or methodology training. So, I was glad that at some point I had taken an Applied Linguistics course as an undergrad that kind of gave you some methodology. But I felt that I didn't know what to expect my first semester teaching because there are a lot of expectations that you don't know how to meet necessarily.

*Interviewer: For instance what kind of expectations?*

Julia: Well like you have the course evaluations in which you have to obtain a certain score. You have no idea how to obtain that score. And if you're a first time teacher you have no idea what the students expect either. You have no training in teaching, it's kind of like "fly by the seat of your pants, here's the lesson plan." At least they give you a syllabus so that you know what should be done and however you can do it, it gets done. You can review for exams and then that's it. I guess regardless the students will get communication because you are in there communicating with them in that way...but the supervisors are always willing to help, it's just that they are so busy with so many instructors that...and you 're busy with your classes that you don't necessarily even talk to them once a semester. You depend a lot on others around you who are teaching the same thing and who have been doing it longer than you have to get good lesson plan ideas and activities. Administration...they have their own agenda. So, you come into contact with them when either you need something and hope that it's good contact. (Laughter) And try to be nice. (Julia, Interview 2, p. 1)

Julia was appreciative that she had a syllabus, but wished for more support, and lacked the confidence in her abilities as a GSI. The above excerpt also underscores the importance of the evaluative process GSIs undergo as well as the anxiety created by the benchmarks one must achieve in order to continue teaching in the department. Without the professional training, Julia was concerned that she would not achieve the required marks.

Sophie also felt that instructors could use some more guidance in terms of professional development. Even though Sophie's background and experience with technology and technology integration should make her more comfortable with the use of technology in her smart classroom, she still felt that more training on the side of the department should be made available to GSIs. The following excerpt from Sophie's second interview emphasizes her views:

Sophie: Okay, well. The department I feel does not take a lot of initiative to educate professionally their instructors in regards to resources that are available to them at the university, either for them or for their students. Specifically for technology, I never felt that the department showed us how to use a smart classroom or offered a seminar about smart classrooms, or even Blackboard (Bb). I mean they just tell you to use Bb, or if you have a smart classroom take advantage of it. They kind of take it for granted that you know how to do it. And fortunately I knew, but I imagine for people that are coming in for the first time, how it would feel for them. I mean for the smart classroom, when I started teaching last year, I didn't know how to use it, so they just gave us the password, but I had no idea about the console, how to use this and that, so a friend of mine showed me but nobody in the department cared. Of course, I never went to somebody in the department to ask for help, maybe they would've volunteered to help if I had asked, but they never just offered anything to us.

*Interviewer: And your friend who helped you was from what department?*

Sophie: From this department, a person teaching in the Spanish Department for three years, so he was experienced. Yeah. And I feel that the department has

some prejudice against out of department people, people from other departments who are not graduate students in Spanish, but... (Sophie, Interview 2, p. 1)

Once again here, as in the case with Florencia, Sophie had to rely on a more capable peer from the Spanish Department to teach her how to use the smart classroom media console. Sophie also underscored that she felt that she was at a disadvantage being a graduate student from another department.

To summarize, both Florencia and Sophie did not feel that they had the appropriate professional training to utilize their smart classrooms. Since there was a network of other more experienced GSIs in the Spanish Department, Florencia and Sophie sought the guidance and assistance of students, colleagues, and friends in using the equipment. Julia's struggle with lack of professional development stemmed from her inexperience in the classroom

### ***Lack of “Know-How” to Integrate Technology***

A step beyond lack of professional development is the lack of “know-how” to integrate technology into the curriculum. Being trained in how to integrate technology in the foreign language curriculum is a core element and challenge for instructors of foreign language in smart classrooms. However only one of the participants, Sophie, mentioned that integrating the technology made available through her smart classroom was challenging.

The first semester it was hard, because I didn't know how to incorporate the equipment, so I had to spend time to think of things to do with it, because up to that point I had been used to the Bb and having the availability of copies, and not

using Bb as much, but now Bb is kind of an essential requirement of the course. (Sophie, Interview 2, p. 5)

Sophie clearly needed to have time to reflect upon how to use the equipment to best support her instructional goals, an element germane to successful integration of technology in the classroom (Garrett, 1991; Kramsch, 1995; Salaberry, 2001). Through the interview excerpt highlighted, Sophie realized that learning how to integrate technology successfully lay on her shoulders.

### ***Lack of Time***

The element of time as a challenge instructor's face when integrating technology into their smart classrooms is multi faceted. Notions of time can be approached from several different angles according to the data uncovered in this research project. The three levels of analysis depict time as: (a) the absence of time in the instructor's schedule, (b) the actual use of equipment in class as time-consuming, and (c) the absence of time in the course calendar. However, these three views of time had a tendency to overlap during the planning and execution phases of a lesson.

#### ***(a) The absence of time in the instructor's schedule***

The first time obstacle instructors encountered was the absence of time in the instructor's schedule to plan the appropriate uses of the available technology to support their goals. Since these instructors are also full time graduate students, their available time outside of the classes they taught and took was limited. Sophie found that she

would “lose herself” while searching for appropriate websites that would best highlight her instructional goals. Sophie expressed that she would:

...maybe become more efficient in the aspect of time, sometimes it is time consuming for me when I’m looking for websites, or looking for material, so I’m hoping that the more time...the more times that I do a specific activity, or the more times I practice bringing a specific tool in the classroom then it will be much faster for me when I’m preparing my lesson plan. (Sophie, Interview 3, p. 2)

Sophie did end on a positive note, albeit finding the appropriate tool outside of the classroom was time consuming. Sophie realized that she had a tendency to spend vast amounts of time surfing for the website, or finding the right clip, as illustrated by the following interview snippet:

So, other than that, while preparing, the biggest challenge is not to get carried away, because sometimes I get carried away and I spend so much time looking over websites or looking for the, if I’m showing a movie, looking for the specific scene and looking at it again and again and again. So, that’s a challenge too that it takes time, unless you really feel strongly about it you can easily give up because it is so time consuming. (Sophie, Interview 3, p. 2)

For Sophie it was not a possibility to give up searching for the appropriateness of the material even if it was time consuming, which brings to light the second time constraint, *the actual use of the equipment in class as time-consuming.*

***(b) The Actual Use of the Equipment in Class as Time-consuming***

Florencia also had a similar experience to Sophie’s in that she needed to prepare outside of the classroom to implement a specific tool inside the classroom. In addition to

the time needed for preparation, Florencia also had to spend valuable class time to open up the documents she had prepared ahead of time:

I had on a Word document different pictures, photographs of people that the students...the students had done research on those people, but I wanted to show them the pictures of those people...like César Chávez or Gloria Anzaldúa, different people...Hispanics here in the US and I prepared that in a Mac computer and I went to the class and I had a PC and I couldn't, the documents did not open...the photographs did not open, so I know I could've changed to Mac because later on my students taught me how to do it (laughter), but that day, in the interest of time, I said "well I have these pictures, but I'm not going to show them to you," and also when I have clips, movie clips I wasted a bit of time until I find the stuff, even though I prepare at home and I know what track it is and everything, but I don't know, sometimes it's a waste of time when you're showing a five minute clip and you're spending seven minutes trying to figure out how to work it, so...but uh. Those are the problems that I've had. (Florencia, Interview 3, p. 2)

This excerpt from Florencia's interview highlights her frustration with valuable in class time lost when attempting to show the clip she had taken a long time preparing at home. Florencia attempted to put a number to the minutes spent in attempting to show the clip compared to how long the actual clip was. Similarly, Liz also felt that using the technology in the classroom took up valuable class time:

In terms of technology, I think it is neither a benefit nor a detractor for presenting the syllabus and other course information. It doesn't matter if it is on a screen or on paper. It does take more time and does make me more nervous because there is not a paper back-up available for the students to look at. Sometimes I have not been able to make the consoles work, and I hate to be dependent on a machine. Also, some students are still not so familiar with the Bb system, so it took time away from the class to explain how to enter into Bb and find the documents. (Liz, Reflection 1, p. 1)

Liz felt that valuable time was lost from class when she needed to explain how the Bb system worked in class. In another account, Liz argued that the Ppt presentations at the

end of the semester required additional time for which she had not planned. Liz's last reflection highlights the following:

In terms of student presentations, there were lots of complications with the PowerPoint presentations. I had a computer malfunction with yahoo and hotmail in terms of downloading presentations. Lots of time was lost and I did not know how to resolve the problem. I switched systems from PC to Mac and after multiple attempts (doing the same thing), the presentation was downloaded. This set the presentations back and caused a scheduling crisis. (Liz, Reflection 6, p. 1)

A scheduling crisis at the end of the semester was a source of stress for Liz, since she had to make accommodations for students to present during expanded office hours.

Sophie also had a similar experience when she wanted to show tango movie clips. Sophie's account of the situation revealed added layers involving time. In addition to the lesson planning mentioned earlier, and the time needed in the classroom to play the movies, Sophie took extra time to make sure the equipment was functioning in the smart classrooms where she would be teaching. The following extensive reflection excerpt is used since it reveals Sophie's state of mind:

I planned ahead to use two movies – one called “Tango bar”, that is considered to be one of the “classics” when it comes to Carlos Gardel, and one called “Tango” that is a recent movie and it revolves around the dance and music of tango. The day before carrying out my lesson, I went to the two classrooms that I teach and I made sure that the two DVDs were working, that the computers had the appropriate programs to play the movies, and that the sound and picture was good and clear. The night before, when I was preparing my lesson, I spent quite a lot of time on the lesson planning, since I played both movies at home and watched them scene by scene, because I wanted to find the scenes from each one that would be the “best”; meaning that they would be the most representative of the material that I wanted my students to see, and the most appropriate for them given always my limited amount of time in class!!!...The lesson turned out to be successful I think, everything – technology wise – worked out fine, and my students seemed to enjoy the movies, the music, the dance. Some of them referred to the movies during the remainder of that week, which I thought was great, since they must have liked the experience so as to refer to it later on!!



Overall I felt really good about this lesson, and I was even more gratified that my students enjoyed it as much as I did, even though it took more time in my preparation, than the usual lesson!!! (Sophie, Reflection 5, p. 1)

Sophie ended by admitting that the lesson did take a lot more time to prepare and execute than her usual lessons.

### *(c) Absence of Time in the Course Calendar*

The final and third layer of time I uncovered entails the *absence of time in the course calendar*. Sophie wanted to show a Gardel DVD when covering the unit on Argentina to tie into the chapter, and at the same time meet her personal goal to integrate more movie clips into her teaching practices. However, Sophie had to select what DVD she wished to incorporate carefully, since she felt that she could not deviate from the course schedule:

It [a Carlos Gardel DVD] would be educationally valuable to my students, and it would fit in the Calendario, without taking up time from something else (the Calendario is quite strict, and there is not much room for deviation from the material that should be covered!). (Sophie, Reflection 5, p. 1)

The use of the exclamation point in this reflection emphasizes Sophie's feelings of not being able to take time away from other activities in the classroom, even though she believed it would be educationally valuable to her students.

To summarize, time is a valuable commodity to GSIs for multiple reasons. As full time graduate students and part time instructors, GSIs do not have additional time; despite this absence of time, Florencia and Sophie sacrificed time to amass appropriate material surfing websites and finding appropriate movie clips that would best tie into and

deliver the appropriate meaning to their students. In addition, the participants found that it took a lot of time in class to run applications smoothly, as well as took time from a rigorous course schedule.

### ***Technology Anxiety***

I placed technology anxiety under the umbrella of inadequate GSI preparation, since it is an affective factor that developed in one of the participants due to lack of training/professional development, due to the lack of training, and lack of time. Sophie mentioned feeling agitated when the computer did not work; this feeling deepened when she drew upon her Plan B, a paper document, and then realized that the projector light bulb had burnt out. Liz also mentioned feeling anxious and afraid of using the technologies offered through her smart classroom, as depicted in her first interview:

And here, I've been using technology as it's been available and seen most fit. I don't feel completely competent using everything. I get scared when the machine doesn't turn on right away. I don't like feeling...I don't like going to the classroom and being dependent on if the machine is working or not. That's what I don't like. (Liz, Interview 1, p. 2)

In terms of using the technology in the classroom and not feeling competent in being able to use everything is upheld in the argument brought forth by Dwyer, Ringstaff, & Sandholtz (1991) in the *entry* phase of the ACOT framework. It is normal for teachers to feel uncomfortable using the equipment when they are not familiar with it. Liz felt scared that the machine would not turn on in the above except, and also felt nervous about not having a back-up plan in her first reflection:

In terms of technology, I think it is neither a benefit nor a detractor for presenting the syllabus and other course information. It doesn't matter if it is on a screen or on paper. It does take more time and does make me more nervous because there is not a paper back-up available for the students to look at. Sometimes I have not been able to make the consoles work, and I hate to be dependent on a machine. (Liz, Reflection 1, p. 1)

In this case, Liz's fear and nerves of dealing with technology have translated into her distaste of the equipment and her reticence to depend on the media consoles.

In summary, technology anxiety prevented Liz from feeling comfortable using the media console in her smart classroom. Liz's anxiety rose to the point that she felt scared when the machine did not turn on immediately. Due to inadequate GSI preparation, all four participants were presented with several challenges in their smart classrooms in terms of their lack of training, "know how," and time.

## **2. The Smart Classroom Presents Constraints**

The technology available through the media console in the smart classrooms presented constraints for the instructors in terms of the usability, visibility, and feedback available through the media console and differing media applications. The three main constraints instructors reported were: unfamiliarity with the equipment/equipment is not standardized, equipment can malfunction/technical difficulties, and limitations of web-based classroom management software.

### *Unfamiliarity with the Equipment/Equipment is not Standardized*

Florencia, Julia, and Liz all experienced situations in their smart classrooms in which they felt uncomfortable or frustrated with the equipment. The first element of difficulty to overcome in a smart classroom was turning on the equipment and making the machinery available for instructors to use. In the following vignette from one of Liz's reflection, she admitted that she had difficulty navigating the media console:

Sometimes I have not been able to make the consoles work, and I hate to be dependent on a machine. Also, some students are still not so familiar with the Bb system, so it took time away from the class to explain how to enter into Bb and find the documents. (Liz, Reflection 1, p. 1)

This was extremely frustrating to Liz when the first obstacle to overcome was to figure out how to turn on the media console. Liz's initial experiences lead her to express anger at the machine she was using, since she did not feel in control of the situation (Graham & Weiner, 1996, p. 63).

In the interview excerpt that follows, Florencia had a troublesome experience when she attempted to open documents she had prepared on a Mac, while using a PC in the smart classroom. Since Florencia was not familiar with the media console, she had not realized that she could switch platforms.

I had on a Word document different pictures, photographs of people that the students...the students had done research on those people, but I wanted to show them the pictures of those people...like César Chávez or Gloria Anzaldúa, different people...Hispanics here in the US and I prepared that in a Mac computer and I went to the class and I had a PC and I couldn't, the documents did not open...the photographs did not open, so I know I could've changed to Mac because later on my students taught me how to do it (laughter), but that day, in the interest of time, I said "well I have these pictures, but I'm not going to show them to you," ...Those are the problems that I've had. (Florencia, Interview 3, p. 2)

Norman (1988) argued that if the design of the media console touch pad display had been more visible, as well as more usable, Florencia would not have encountered the difficulties she did in switching to and from different platforms.

During yet another experience that underscored the non-standardization of equipment, Florencia had prepared to show movie clips at home to make sure she knew how to turn off the director commentary as depicted in the following excerpt:

So...I found out how to turn the commentary off and I paid careful attention because I wanted to remember how to do it in class. I thought that I was ready; however, when I played the movie in class, the same thing happened and I could not find a way to turn the commentary off. The problem was that with the commentary on, we could not hear the music that the dancers were dancing to, so it made no sense to watch the clip. I was extremely frustrated because I had taken the time to rent the movie, selected the clip, and many other things and things did not go as planned. (Florencia, Reflection 4, p. 1)

This is another design constraint since the application Florencia used in the smart classroom differed from the media playing program she had used at home. The same instance occurred in Liz's classroom during the final presentations as follows:

In terms of student presentations, there were lots of complications with the PowerPoint presentations. I had a computer malfunction with yahoo and hotmail in terms of downloading presentations. Lots of time was lost and I did not know how to resolve the problem. I switched systems from PC to Mac and after multiple attempts (doing the same thing), the presentation was downloaded. This set the presentations back and caused a scheduling crisis. (Liz, Reflection 6, p. 1)

In this case Liz knew that she could switch from PC to Mac after many attempts, and in so doing she was able to load the student presentations for display. Norman stated that "we must insist that the computer developers work for us – not for the technology, not for themselves. Programs and systems do exist that have shown us the potential; they take

the user into account, and they make it easier for us to do our tasks – pleasurable even” (Norman, 1988, p. 179). Instead of adding to Florencia’s and Liz’s frustration and discomfort in using technology, design could be improved.

Issues of design also affected Julia’s experience of teaching in the smart classroom, despite her experience with technology, programming, and background in Electrical Engineering. Julia’s difficulty lay in finding the correct settings and adapter cable to display her Ppt presentation.

On the first day of class I had my laptop that I was going to send my Ppt presentation through the console so I got an adapter cable so that I could show whatever is on my screen on the big screen and somehow I couldn’t figure out the settings. So that day I found out I can just post it to WebSpace and then open it on the computer and it’s there, so I don’t have to take my computer and feed it through, I could just do that. The only problem was that my computer has software that the console doesn’t, so I had to save it as a PDF and then put it online so that I can open it from anywhere, but it’s easily fixed. (Julia, Interview 1, p. 4)

Julia was able to overcome her challenging moment due to her experience; however, this is not the case with the majority of the GSIs in the department. Even Julia was unfamiliar with the equipment, since it did not conform to the same standard with which she had prior experience.

Issues of standardization carry forth not only in the computer platform arena, but also into the set-up of the smart classroom itself. The following interview excerpt illustrates how the smart classroom set-up at TU came into play for Julia:

It was probably the first time that I used the smart classroom over the summer and I wanted to use something, the doc cam I think. And it was one of the first few days of class and I don’t know what the difference is. That smart classroom is a little bit older than the smart classrooms in this building and so to turn the system power on. I couldn’t find it. You had to do that before anything else, before the

screen would come down, or the projector would turn on. So, it was just that little button, so I called ITS and they came over to do it. (Julia, Interview 1, p. 7)

In Julia's case she had differing smart classrooms from one semester to another; however, Liz mentioned in her first interview that she struggled with the design differences between two of the smart classrooms where she taught in the same building.

That's another thing that does really make it difficult in terms of the problems with technology, is that if it's not uniform then... and you're required to teach two sections of the same course, then making up for the information that you're going to depend on the technology for becomes a real problem. Or it means preparing two separate classes essentially. (Liz, Interview 1, p. 4)

The non standardization of the media console and the smart classroom made it more difficult and complicated for Liz to carry out her lesson, in fact, she emphasized that on occasion she had to prepare separate classes in order to not have to rely on the technology.

In summary, the unfamiliarity of the instructors with the different platforms and software contributed to a feeling of frustration and unease with the machinery. Not only were the platforms different from computers the instructors had prepared their work on, but the smart classroom media consoles also differed from each other.

### ***Equipment Malfunction/ Technical Difficulties***

At any given time machines can malfunction since there is a given amount of human error involved with the machinery and with the design of the technology. The instructors, regardless of their background with technology and their experience teaching in the classroom, reported several instances of the equipment malfunctioning. Despite

Sophie's background and experience with technology, she had an unnerving situation occur when she was finally assigned the smart classroom she had awaited since the beginning of the semester:

I was relieved to find out a few days ago that my request for smart classrooms had been approved and that I had received smart classrooms, and I was very happy last Friday when I finally got a chance to demonstrate to the students a lot of the things on Blackboard that I was just referring to during the previous classes. I got nervous at some point when I was getting ready to download from Blackboard an exercise I had prepared for the students and the computer crashed, and I could not reboot it, but based on past experiences of the technology failing while in class, I had a back-up plan: I had brought with me a hard copy of the exercise and used the DocCam so as to show it to the students! I find that it is always a good idea to have a plan B when using a smart classroom, in case something goes wrong with the equipment!! (Sophie, Reflection 1, p. 1)

Although Sophie was not able to reboot the computer, she was able to rely on a backup plan. Another instance of the equipment malfunction occurred at the end of the semester during student cultural presentations. According to the syllabus, students were encouraged to present with Ppt, but Liz found that:

In terms of student presentations, there were lots of complications with the PowerPoint presentations. I had a computer malfunction with yahoo and hotmail in terms of downloading presentations. Lots of time was lost and I did not know how to resolve the problem. I switched systems from PC to Mac and after multiple attempts (doing the same thing), the presentation was downloaded. This set the presentations back and caused a scheduling crisis. (Liz, Reflection 6, p. 1)

In this case, the equipment malfunction caused a scheduling crisis for the instructor and the instructor was still not able to solve the problem.

The equipment malfunction instances mentioned thus far stem from platform and software difficulties; however, Sophie experienced another type of equipment malfunction upon which she had not counted:



Sophie: Of course when something happens during class, when something's not working, I feel like I'm getting a bit agitated, but I already have in mind something else to do. It's as if I go prepared for the worst, which doesn't sound good...

*Interviewer: So you go prepared for the worst for every single class you teach when you're going to use technology to support you?*

Sophie: Generally yeah. Not every single time, like it happened that I wished I had a transparency with me to put on the overhead projector (OHP) because the OHP was not working. See, in the past I always assumed that the computer would not be working, so I counted on the doc cam to work on that, but when the projector was not working one day, I had no plan to use the OHP. The next day I did bring transparencies just in case. But ... (Sophie, Interview 2, p. 2)

Even in the situations where the instructor is prepared with alternate modes of presentations, delivery of the course material can still go awry as in Sophie's case.

Similarly to Sophie's case, Julia reported that: "It all falls out of balance when the classroom equipment does not work. I was thrown when the projector in my classroom did not work. I was able to find another nearby classroom though, and only lost five minutes of class time" (Julia, Reflection 3, p. 1).

To summarize, the software and computer complexities Sophie and Liz underwent while attempting to download and display information for students and student presentations, presented one view in terms of equipment malfunction. Julia and Sophie experienced another view that involved the complexity basic equipment unusability (a burnt out light bulb) would present when relying on that piece of equipment to function.

### *Limitations of Web-based Classroom Management Software*

Technology changes at the drop of a hat. When we look back at how quickly we have evolved from the use of chalk and a chalkboard, the original “Blackboard,” there are limitations to what technology has to offer at any given moment. When Liz decided that she wanted to enroll in the classes offered by TU to add experience with technology to her CV, she realized that Bb presented certain limitations:

The Bb course that I took, talked a little bit about discussion board, but really all the things that I found out there were things that I had learned through trial and error. And that my frustrations with Bb were very legitimate, that the technology isn't up to the point where they can do a couple of the things I wanted to be able to do. So it wasn't simply my lack of knowledge, it's simply that the Bb doesn't have those functions yet. I'd like to stay abreast of what's happening, and encourage my students to use extra resources on the Internet, but I don't know if I could necessarily at this moment, I'm sure there are things I could do to prepare for that type of problem in the future, but I don't necessarily think that it's my job to do so. (Liz, Interview 3, p. 2)

This excerpt from Liz's interview reflects her frustration and discontent with the Bb version that was used in the class she attended. She became excited about a possible feature she could incorporate into her classroom; however, she realized that this was not possible at that point with the technology available through Bb.

### **3. Technology Mediates Information Delivery**

This section highlights the mediating effect the technological capabilities of the smart classroom produce for the instructors in this study. Kramsch (1999) warned readers to be wary of the mediation needed when technology is made available in the classroom. Kramsch further pushed for the need to mediate the message conveyed

through the use of media in the classroom. The subcategories I found are: Ppt constraints and technology takes center stage.

### ***Ppt Constraints***

The accessibility of information made available to students through the World Wide Web made it possible for students to deliver their final presentations in Spanish 4. Ppt was recommended on the course syllabus as a means by which students could present their projects to their class and instructor (see Appendix E for course syllabus). Although the use of the Internet outside of the classroom is beyond the scope of this study, the information retrieved from the Internet was projected to students in class. Since this material was viewed by all students, the type and quality of content made available was concerning to one of the instructors. Liz found that her students had not spent enough quality time researching their final projects as reflected in the following excerpt:

I mean technology can be a great tool, but again I'd like to make sure that technology is always in support of using the language for what we've always used language for. And if it's a way of researching, I would like students still to know how to use a library, and I feel that many of them don't use a library. And so in a sense technology can be a hindrance to a deeper investigation. (Liz, Interview 3, p. 4)

Liz believed that students' research projects lacked the depth due to resorting to the Internet as a primary text.

Furthermore, Liz reported that students opted for Internet research because it was more accessible and faster than library research. In Liz's third interview, she argued that the quality of the research was shoddy due to several factors:

Because it's faster, because you can just print it, but the quality of the research is often lacking, because the sources are not as reliable, because there's just so much out there that, to actually find an expert text amongst all the rubbish (rubbish?) it's often more complicated... (Liz, Interview 3, p. 5)

This excerpt also provides the added dimension that not only might the material retrieved be of poor quality, but that students may have difficulty finding an “expert text amongst all the” rubbish. The poor quality of the research was due largely in part to the lack of research experience at the library and the inexperience of sorting through all the information available via the Internet. By extension, the research seemed more lacking and superficial perhaps due to the chosen mode of delivery, Ppt. In fact, Tufte's (2003) *The Cognitive Style of PowerPoint* found that a *Harvard Business Review* study argued that “the widely used bullet outlines did not bring intellectual discipline to planning – instead bullets accommodated the generic, superficial, and simplistic” (p. 11). Tufte further outlined that PowerPoint's cognitive style of poor resolution, bullet format, and distracting graphics “routinely disrupts, dominates, and trivializes content” (p. 24).

When Liz's students used Ppt technology to present their final cultural presentations at the end of the term, Liz found these presentations somewhat dull and limiting. The guidelines on the syllabus informed students of the expectation of using Ppt slides to present their final projects for the class. Liz did not have a positive experience with the presentations as illustrated in the following reflection:

As this is the age of screens, the class seemed fairly awake looking at the presentation. However, it seemed that less attention was given to what was being said. Each group did a little quiz for the class after the presentation, and in general, if the information was not written on a slide, the class had difficulty answering. If the information was on the screen, they could respond. I do not

attribute this to their inability to process oral information because when we do listening exercises, most are quite competent. I rather believe that the screen's presence turns off another switch in their brain and limits their concentration. I could be wrong. (Liz, Reflection 6, p. 1)

Although Liz was careful not to attribute students' inability to respond to questions to their inability to process oral information, she believed that the presence of the screen had a negative effect on student concentration to the extent that Liz felt that the presence "turns off a switch in their brain".

I uncovered yet another unique phenomenon in Julia's account of using PowerPoint (Ppt) presentation slides as part of her classroom practices to assist her in the delivery of information to her students. Julia demonstrated a proclivity towards using Ppt at the outset of the data collection semester, but she traded this in favor of more eye-contact time with her students. Julia made the conscious decision to stay away from Ppt as emphasized in the following reflection excerpt: "I've stayed away from the PowerPoint. It seemed a little too rigid and impersonal. And I get to interact a little more and do some transitional stuff when not using Ppt" (Julia, Reflection 2, p. 1).

Ppt was rigid and impersonal and hence impeded Julia from transitioning smoothly between activities. Furthermore, Julia underscored that with her use of Ppt, as traditional lectures, she was not able to interact as freely with her students.

Ppt presentations had adverse effects on two of the participants, Julia and Liz. In Julia's situation, she had used Ppts to lecture to her students creating a barrier of communication; whereas in Liz's experience, students were not able to respond to information that had been delivered by other students via Ppt slide shows. Furthermore,

Ppt also had a constraining effect on the quality and depth of information delivered by students in the class. In sum, the students' quick and "shoddy" research on the Internet coupled with streamlining the information into the Ppt presentation mode offered generic, non impressive, an information-poor presentations.

### *Technology Takes Center Stage*

Liz was the only participant who mentioned that the design of the smart classroom supported technology taking center stage. However, through observations I also noted that Julia allowed her Ppt presentations lecture format to overpower her in the classroom in the beginning of the data collection semester. Through observations in the four participants' classrooms, the projection screen and set-up of the projector did take center-stage in terms of where the machinery was situated; however, instructors chose to contend with their set-ups in differing manners. Liz is the only participant who made the following observation:

The one thing that really bothers me about the smart classroom is that often the technology is physically presented as the center of attention. In one of my rooms, the seats and desks are stuck to the floor and all attention is always drawn to the screen in the front. I do NOT (emphasis in original) like standing in front of the students the whole time in that seating arrangement. (Liz, Reflection 1, p. 1)

Liz clearly demarcated her distaste for the set-up of the smart classroom on more than one occasion.

Furthermore, through the following interview snippet, Liz displays her deep-seated knowledge that, as espoused by Salaberry (2001), when technology is used well implies that there must be a connection made to other activities in the classroom.

Sometimes I feel that the students just doze off and they look at the screen and there isn't so much interaction. I think that used in the proper way, as long as the screen is not the focus of their attention, when it supplements whatever the activity is, then I think it's really positive, but when there's not technology, then sometimes the class dynamic can be as good or sometimes even better. And the complaint I wrote to you in my weekly report to you is that simply the setup of classrooms really bothers me when the technology itself becomes the central focus of the physical layout of the classroom. (Liz, Interview 1, p. 5)

Although Liz was the participant who had the least experience with technology and teaching with technology, she did recognize her desire to have a more student-centered classroom, an element that was impeded through the set-up of her smart classroom. She underscored that the dynamic in a non smart classroom could be better when technology is not involved in the delivery of information.

## **CHAPTER SUMMARY**

I have highlighted several findings in a cross-case analysis of the four participants: Florencia, Julia, Liz, and Sophie. Three categories emerged across the cases and were described in light of the challenges these instructors faced with varying aspects of technology integration in their smart classrooms. Some of the themes subsumed under the three main categories I found in two of the cases, but I included them since they address challenges that hold implications for the future of technology integration into foreign languages (see chapter ten).

Furthermore, findings in this chapter pointed towards several obstacles GSIs encountered when using technology in their smart classroom. Only one of the GSIs, Sophie, made specific mention of having difficulty with the integration of technology

into the curriculum per se; however, this was due to her deeper understanding of the topic at hand in light of her prior knowledge and background with technology. Other participants made reference to several challenges they encountered during the data collection semester. These obstacles brought to light areas that should be explored in more depth in the future, and at the same time, recommendations will be made in chapter ten to further support teachers as they attempt to incorporate technology in the classroom.

This chapter addressed the second research question: What challenges do instructors face when integrating technology into their curriculum? In light of answering the second research question, three main categories emerged. In one situation, several sub-categories were subsumed under one theme. The categories found were: (1) inadequate GSI preparation, (2) technological constraints, and (3) technology mediates information delivery.



## **Chapter 9: Data Analysis for Question Three**

### **CHAPTER INTRODUCTION**

Chapter nine will address research question three through a cross-case analysis of the four participants. I selected the cross-case comparison method to highlight several commonalities and differences among the participants through purposeful sampling to represent typical cases found at The University (TU). In this chapter I address the third and last research question for this research project and is stated as follows: What advantages do instructors believe derive from using technology in their smart classroom?

I have organized this chapter in the same fashion as the preceding chapter. The subheadings serve to highlight the categories I found in the data that address the advantages instructors believe derive from using technology in the smart classroom. I enumerate the four main categories, describe them, and end each section with a summary. The cross-case analysis begins with an introduction and ends with a chapter summary, which in turn brings the chapter to a close, and at the same time underscores the main findings of this chapter.

### **CROSS-CASE ANALYSIS FOR QUESTION THREE**

#### **Section Introduction**

I derived the following findings from a cross-case analysis of the four participants, Florencia, Julia, Liz, and Sophie. I made a serious attempt in analyzing data to unearth similar findings across all four cases. If the findings were not visible in all

four participants, the finding was still included if it existed in a cross-case comparison of at least two of the participants. I organized the findings into four main categories: (1) technological growth, (2) professional growth, (3) better pedagogical practices, and (4) institutional gains.

## **Findings**

1. Technological growth
  - Accessibility and availability of information
  - Aides in future job attainment and security
2. Professional growth
  - Institutional support exists for GSIs
  - Management and organization of information leads to a professional feel
3. Better pedagogical practices
  - Authentic materials add breadth and depth to the experience of foreign language
  - Material and instruction are more entertaining to students and instructors
  - Facilitates integration of target areas in foreign language
  - Leads to innovative approaches to target the four skills
  - Time saved promotes better use of the instructional period
  - Targets different learning styles

#### 4. Institutional gains

- Instructor and departmental costs are reduced

### **CATEGORIES REGARDING ADVANTAGES IN SMART CLASSROOMS**

#### **1. Technological Growth**

In this section I highlight the areas of technological growth the participants experienced over the course of the data collection semester. The introduction of the technology available in smart classrooms has served as a catalyst in some way for the instructors to experience technological growth, despite how they viewed themselves at the outset of data collection. The two main subcategories I underscore are: accessibility and availability of information, and, aides in future job attainment and security

#### ***Accessibility and Availability of Information***

Julia, Florencia, and Liz all found that the resources made available through their media consoles in the smart classrooms provided them with access and availability to a wealth of information to support their instructional needs. Julia found the Internet was not only a good source to draw upon for her students, but she also used it as a means to store her information for instructional purposes. Julia consistently reported her views on accessibility and availability of information throughout the data collection semester as evidenced by the following interview excerpt:

Complicated? Not at all ... it's been helpful. It's been nice to just be able to pull something up on the Internet if they have a question. Or if you just want to show

them a picture or something, it's helpful...because I normally do stuff, you know preparation the night before or a few hours before and I post it online on my WebSpace so that I know it's there. So, I never wonder where stuff is, or forget stuff at home because it's online. So it's only been helpful. (Julia, Interview 2, p. 4)

Julia further emphasized her feelings regarding storage and accessibility of information in her final reflection for the semester: "When it comes to crunch time, I'm glad that I have everything online. This way, if I forget to bring something to class, it's easily accessible online" (Julia, Reflection 6, p. 1).

The information became easier and more accessible for Julia to manage, since her materials were all stored in WebSpace. Through storing information in WebSpace, Julia was able to later make materials accessible to her students through Bb. Julia could then access materials for classroom instruction in two manners, through: (1) WebSpace, and (2) Bb.

Similarly, Florencia also placed the materials on Bb for her students to access. Florencia also made mention that she used the announcements folder on Bb to update her students with information. "I have also put documents and announcements on Blackboard and now I need to start working on the GradeBook" (Florencia, Reflection 3, p. 1). The GradeBook function on Bb also made grades accessible and available to students at all times.

Accessibility of information and materials also pinpoints the amount of information obtainable through the Internet. Julia claimed that the accessibility and availability of materials far surpassed the materials available through a book, pictures, or

music CD. Julia believed that the world of the Internet made the information limitless as depicted in Julia's second interview:

There's more available where if you were just dependent on actual photographs or things or even just CDs, because you can just go on to iTunes and look for any song and get it and it's there. But if you had to take books with you and take pictures with you you're limited, whereas if you can look them up either right before class and post them online or just look them up online in class you have all that at your disposal. The only barrier is what you can think of to look for, but it's all out there. (p. 4)

According to Julia, the only barrier to accessing information available through the Internet is being able to conceptualize *what* one wishes to access.

Furthermore, Liz found that being able to post additional documents on Bb proved to be a valuable way for her to share information with her students. Through making these materials available to students via Bb, students were able to gain access to the materials at their discretion.

I can share with them [the students] very easily additional documents (not assignments, simply extra and optional explanations and practice) which they can access as they see fit. They do not have to wait for me to make photocopies or to see me. This puts learning more in their hands and gives them greater responsibility for their individual progress and success. (Liz, Reflection 3, p. 1)

Liz clarified that since the materials were made available on the Internet for students to access when they had the need, this placed the responsibility of learning, and hence ownership of the task, in the hands of her students.

In summary, Julia, Florencia, and Liz all found that the availability of the Internet to access materials for instructional purposes broadened the type and amount of information students and instructors could access. In addition, WebSpace and Bb served as a means for the instructor to share information with students in an immediate manner.

An added advantage was being able to give students ownership of tasks by being able to offer freedom to access information as needed.

### ***Aides in Future Job Attainment and Security***

In order to keep abreast of the demands of the rapidly changing technologies, Liz sought out further professional development to add new skills to her curriculum vitae (CV) while applying for tenure-track positions. Of the four participants, Liz was the only one who felt that this was lacking from her CV, perhaps partially due to the fact that she had pursued studies in literature. Liz's background with education and technology showcased that she did not feel comfortable with technology as part of her instructional practices (see Liz's background in chapter seven for more details). The other three participants had more experience with technology, since they studied in either the Applied Linguistics or Foreign Language Pedagogy departments and received more modeling of smart classroom technologies from their professors in their respective departments.

During Liz's job hunt, she realized that the job posting announcements through the *Chronicle of Higher Education*, as well as independent mailings through the departmental *Listserv*, required and expressed preference towards a candidate that was familiar with and used modern technologies for instructional purposes. For this reason, Liz enrolled in the courses offered through TU Teacher Support as expressed in the following vignette:

I am getting certified in teaching with technology through TU Teacher Support. A lot of the schools that I am applying for ask for instructional technology. I am

embarrassed with some of my lack of knowledge, so I signed up to learn the right way. I went to the first session this week on the uses of Blackboard. Most of what was taught, I already had figured out how to do on my own. A couple of aspects of Bb technology fascinated me and I would be interested in exploring them when I design my own courses in the future. (Liz, Reflection 5, p. 1)

Thanks to the courses offered at TU, Liz was able to enroll in TU Teacher Support to gain the skills she would need to add to her CV in order to address the preferences displayed by future employers. The TU Teacher Support courses, as well as the job announcements served as a catalyst to propel Liz towards creating classes that would be interesting, engaging, and in keeping with newer approaches in foreign language pedagogy.

In reference to graduate student technology training, a recent study by Golde and Dore (2001) highlighted that:

Of 4,114 doctoral candidates at twenty-seven institutions strongly suggest that their training is not adequately preparing them for teaching in the institutions where they will obtain positions. Only 14.1% of these students responded that they were prepared by their program for incorporating information technology in the classroom, and 33.5% indicated that they were comfortable with the technology. (Dore, 2001, p. 24-27; as cited in Goldfield, 2001, p. 111)

Clearly there is a need for graduate students to be better trained in terms of technology for their future occupations; however, Liz took the initiative to enroll in the classes offered by her university to better prepare herself for the job market.

To summarize, Liz realized that the job market for tenure-track positions in Spanish Language and Literature preferred a candidate who felt comfortable navigating newer technologies in the classroom. In order to strengthen her candidacy, Liz enrolled in TU Teacher Support classes at TU.

## **2. Professional Growth**

Professional growth refers to each instructor's development over the course of the data collection semester in light of the following subcategories derived from the emergent themes: institutional support exists for GSIs and management and organization of information leads to a professional feel.

### ***Institutional Support Exists for GSIs***

Of the four participants I interviewed and observed, two of the participants, Liz and Sophie, mentioned that they took advantage of professional development opportunities offered through TU. These opportunities translate into the availability of institutional support for GSIs. Liz was one of the GSIs who took advantage of the courses offered through TU to graduate students and instructors called TU Teacher Support. Although the courses were not part of the actual smart classroom experience, Liz utilized some of what she learned and transferred these skills into her classroom.

I am getting certified in teaching with technology through TU Teacher Support. A lot of the schools that I am applying for ask for instructional technology. I am embarrassed with some of my lack of knowledge, so I signed up to learn the right way... I think that it would be an interesting writing exercise to post discussion board topics and form discussion groups and have students correspond by computer to each others' thoughts on the computer. I would also like to set up "chats" that are recorded, with maybe 4-5 students per chat session. It may be interesting for them to chat for 15 minutes, then print out what they wrote to each other, mark their errors and have them correct what they wrote. (Liz, Reflection 5, p. 1)



Although Liz did not find everything in the TU Teacher Support courses useful, she was able to glean information that she could apply to future classes, even if not directly applicable to the classes she was teaching at that moment.

In this same vein, Sophie believed that the Spanish Department should utilize external resources in order to support GSIs as they struggled with instructional practices in smart classroom and with foreign language education in general. Sophie recognized that external resources were available to TU students. Furthermore, she realized that the coordinator was beginning to draw upon some of these external reserves and was open to suggestions. Sophie reported:

So I did suggest, in a discussion forum on Bb that she had for orientation, I did suggest that maybe next year we can have somebody from the Center for Teaching Effectiveness, or someone from Bb for people who don't know how to use it. Actually, she made it mandatory for people who had never used Bb to take a seminar during orientation, but I didn't go since I had already been using Bb. So yeah, she did bring some really good changes. (Sophie, Interview 2, p. 2)

Sophie felt that the new coordinator was able to invoke some changes during the orientation session for GSIs; she still felt that perhaps new trends in regards to technology could have been further addressed. However, for the first time, a Bb training session was provided and made compulsory for new GSIs.

Yet another form of professional development that Sophie felt was available to her was in the form of members from the instructional technology support team at TU.

Sophie reported having difficulties with the overhead projector (OHP):

Sophie: ... I wished I had a transparency with me to put on the OHP because the projector was not working. See, in the past I always assumed that the computer would not be working, so I counted on the doc cam to work on that, but when the

projector was not working one day, I had no plan to use the OHP. The next day I did bring transparencies just in case. But...

*Interviewer: This happened last week, right?*

Sophie: Yeah, see I never assumed that the projector would have a problem, which I should have because it's a projector with a lamp or something, but then after that day I had transparencies for the next time just in case and I contacted the ITS people and they fixed it immediately, so yeah...(Sophie, Interview 2, p. 3)

Through this interview snippet, I provide evidence that there are technical support units at TU that are available to instructors within a short period of time to assist instructors during, after, and before a teaching session.

In summary, Liz and Sophie experienced institutional support through a variety of sources. Liz felt that the TU Teacher Support was a good venue for her to learn new skills, despite the information being repetitive. Sophie believed that the compulsory Bb workshop for new GSIs in the department was a positive change. Furthermore, Sophie spoke favorably of the ITS team available to the Spanish Department instructors.

### ***Management and Organization of Information leads to a Professional Feel***

Florencia and Sophie, the two graduate students in the Foreign Language Pedagogy program felt that the use of Bb and materials available through the Internet helped them feel more organized. At the same time, the Bb system aided Florencia and Sophie in the management of grades and documents. Florencia added the following in her final interview:

I think it keeps me organized, both Bb like putting grades on Bb keeps me organized and using the document camera I do show stuff to my students, it gives the class a structure and that's a good thing about technology. And also using it

to bring other things to the classroom like the music and the audio CD's that we use or the DVD's they give me that chance. (Florencia, Interview 3, p. 4)

Florencia also reported that the use of the document camera (doc cam) helped her feel more organized. Florencia firmly believed that the doc cam gave her class a structure, an element she attributed to the presence of the media console in her smart classroom.

Through classroom observations, I witnessed that Florencia frequently used the doc cam to display her lesson plan from a Word document to students.

The availability of the organizational structures provided by the various tools Bb offered permitted Florencia to *be* and *feel* more organized during the data collection semester more so over previous semesters. The fall of 2005 was the first semester Florencia attempted to use the GradeBook function on Bb with favorable results as depicted in the following excerpt:

I have also posted documents on Bb, I posted the *Escrito Breve 2* (Translation: Brief Writing 2), the *Repaso para el Examen 1* (Translation: Review for Test 1) and a document with grammar explanation about the use of the subjunctive. I have also posted the students' grades on Bb, which makes me feel super super organized because I generally wait a long time before posting grades, but this semester I decided to input grades as soon as I have them to avoid having to work many many hours when the end of the semester is approaching to input all grades together. (Florencia, Reflection 3. p. 1)

The GradeBook tool on Bb helped Florencia feel more organized and also helped her save valuable time at the end of the semester. In an attempt to maintain and strive for

professionalism in the classroom, organizing and maintaining information can assist in that effort. Oftentimes novice teachers and GSIs, due to their proximity in age to their students and common interests, express the need to be “taken more seriously” by their students and viewed as professionals. With the proper organization of information and with tools to help manage information, a professional feeling can be more easily achieved with the efficiency a smart classroom provides.

Sophie reported feeling more professional in a smart classroom not only because of the management and organization of information, but also due to the respect she believed she generated from her students in simply knowing *how* to use the equipment in her smart classroom. In Sophie’s second interview she shared that:

I get the feeling of professionalism when you have the use of technology, for yourself as well, but also the students get a feeling that you know how to use it, so I kind of feel that they have more appreciation for your knowledge as a professional. And it would really seem bad if you had the console there and never using it. Then why be in that classroom in the first place? (p. 4)

In addition, Sophie emphasized that GSIs should not be given smart classrooms if they are not going to make use of the resources at their disposal. Sophie also raised an important question when she pondered *why* some GSIs are assigned classrooms if they are not going to take advantage of them.

In summary, the management of information of two distinct varieties was facilitated through Bb functions. The two varieties of information management were: (1) grades in the GradeBook program on Bb for instructor use and student views, and (2) more documents for students to access in the Documents folder on Bb. Florencia argued that the use of the doc cam helped her maintain a structure in her classroom.

Furthermore, Sophie felt that she was more professional since her students could better appreciate her knowledge of the technology.

### **3. Better Pedagogical Practices**

I originally undertook this study in order to highlight *if* and *how* pedagogical practices could be improved through the use of the technology made available in smart classrooms. Through careful data collection and reduction, I discovered the following subcategories: authentic materials add breadth and depth to the experience of foreign language, materials and instruction are more entertaining to instructors and students, facilitates integration of target areas in foreign language, leads to innovative approaches to target the four skills, time saved promotes better use of the instructional period, and targets different learning styles.

#### ***Authentic Materials add Breadth and Depth to the Experience of Foreign Language***

Rogers and Medley (1988) defined authentic materials as “language samples – both oral and written – that reflect a naturalness of form and an appropriateness of cultural and situational context that would be found in the language as used by native speakers” (p. 468; as cited in Omaggio, 2001, pp. 189-190). The Internet websites and multimedia software that surface at a rapid rate make the increasing options of authentic materials available to instructors astounding. Omaggio’s (2001) *Teaching Language in Context* foreign language teaching methods textbooks, used in graduate methods programs to prepare instructors for the classroom, advocated the use of authentic

materials in the classroom in keeping with the *Standards for Foreign Language Learning* and the push for communicative approaches to foreign language teaching and learning.

The four participants in this study felt that being able to play music or a movie on the DVD drive or through the Internet, and being able to use the doc cam, added breadth and depth to the foreign language learning experience for their students. In Julia's case, she was also able to create a sociocultural milieu in which her students provided input to help create their own classroom atmosphere. Julia reported in her second reflection that "I was pleased when I had class input when selecting which radio station to play off of iTunes. We all agreed on Spanish Tropical music to listen to during class" (p. 1). Julia's access to iTunes was made possible through an Internet connection in the smart classroom. As a group, students selected Spanish Tropical music to add to their enjoyment and at the same time they listened to authentic tropical music.

Sophie believed that there is always a distinct time and use for technology to support instruction. For Sophie too, the Internet served as a portal to bring authentic materials to her students.

Well...it depends, like for culture I feel that it will support me a lot, because I feel that it's a really good way of bringing in authentic information, whether it's from a website that has images or from a newspaper, so on the days that we are doing culture, I know that I will be using it more. (Sophie, Interview 2, p. 4)

In this interview excerpt, Sophie also argued that when she taught culture, she knew that she would tend to use websites more than she would on other days. Sophie added that she did use the Internet *more* on days that she was "doing" culture, but this underscores that the technology was still used on other days.

Although the integration of technology may have been more disjointed with some of the other instructors, the use of video clips was still used to add depth to the foreign language learning experience through enriching their exposure to the target culture. Garza (1996) supported the use of video clips from feature length films to enrich the foreign language learning experience:

Thus, even “scripted” texts, such as motion picture and television scripts, are written to convey relevant situations, depict believable characters, and use authentic language. Their original goal is to persuade, entertain, inform or evoke emotion in native speakers of the language; as such, these texts can provide students with engaging and functionally rich sources of authentic and highly contextualized language and cultural information. (p. 12)

Garza (1996) also found that “Because video allows for both audio and visual modalities of information input, the language and cultural material is more readily contextualized and thus, more accessible to the learner” (p. 6). Liz used video clips from *Tango Bar*, a film that depicts traditional Argentine music and dancing to add depth to a unit that visited Argentina. Liz added in her reflection that:

I used video to help explain the importance of Gardel. The students enjoyed seeing footage from “Tango Bar” of both singing and dancing. They had previously thought of tango as only a dance form. This added depth to their experience of culture. (Liz, Reflection 5, p. 1)

As Garza (1996) argued “...the very flexible nature of the medium itself, together with the inherent richness of a good, well-selected segment, allows for an easy solution: one good video segment may be exploited for use at the beginning, intermediate and advanced levels of language learning” (p. 21). *Tango Bar* was exploited; however, it

added depth to the students' foreign language experience of another culture different from their own.

In pointing to Krashen's (2003) input or comprehension hypothesis of " $i + 1$ ", students must receive some form of input in the target language so that the language can be eventually acquired if certain conditions are met. In order to move to the " $+ 1$ ", the input must be comprehensible. "For beginners, pictures are a tremendous help in making input comprehensible, as are body movements that are at the core of Asher's Total Physical Response (TPR) method" (Krashen, 2003, p. 4). By extension, the language learning experience can become more comprehensible through the sound and movement of video clips found on the Internet.

Sophie further supported the use of movies, songs, and newspaper articles from the Internet to have authentic materials available to her students. In Sophie's final interview, she reported that technology through the smart classroom:

...has provided my students with the opportunity to see authentic material like movies, like songs, like newspaper articles, or websites online, which it's true, I could've assigned that as homework, but I don't think it's the same. First of all there is always the possibility that they will not do the homework and second of all, it's the whole interaction with each other, using the specific activity that enhances the activity itself. I think it has provided my students with this experience of having more fun sometimes, or more authentic information brought into the classroom. (Sophie, Interview 3, p. 3)

Not only did Sophie underscore the importance of having students exposed to authentic material, but this experience added the dimension of interactivity to her class. Through interacting with each other, the zone of proximal development allowed students to learn from each others' experiences and reactions in the presence of their instructor Sophie.



Furthermore, Florencia was also able to use and reuse a CD a student had given her in the past, passing on the information to her students. Florencia in this manner acted as the information conduit. In this vein, Florencia took learning from one of Florencia's former classes into her fall 2005 class:

I also used the computer to show some pictures of *gitanos* (Translation: gypsies) and the flamenco. A student last year gave me a CD after an oral presentation he did on *gitanos* and flamenco. I just wanted my students to see the pictures of *gitanos* before a listening activity we did at the end of Chapter 1. These were pictures of *gitanos* from Spain, so I wanted students to see them, not just imagine them. (Florencia, Reflection 2, p. 1)

In this reflection excerpt, Florencia also acknowledged the power the visual had over some of her students coupled with the added auditory stimulus. At the same time, Florencia realized the value of having pre- and post- activities for her students as espoused by Salaberry (2001) and Herron, Corrie, Dubreil, & Cole (2002).

To summarize, the media console in the smart classroom made several authentic materials accessible to instructors in the classroom, which in turn enriched the learning experience for students of foreign languages. Through listening to downloads from iTunes and music CDs, as well as viewing video clips from feature length authentic films produced in the target language countries, students were exposed to target language culture through the products of the target cultures.

### ***Material and Instruction Are More Entertaining to Students and Instructors***

Florencia, Julia, and Sophie believed that different modes of instruction and information delivery to their students would make the experience more enjoyable and

entertaining for their students, but also for themselves. Florencia added in her second interview that:

... I think it makes classes more interesting and more helpful for students, I mean there are visual students who will benefit a lot more from seeing scenes from *La Habana* than just from reading what *La Habana* is like and I think that just showing clips will show them things about the culture, in that case the Cuban culture, that they could not just grasp just by reading. (Florencia, Interview 2, p. 4)

Florencia capitalized on the power of the visual information to captivate students' interest surrounding the topic at hand to gain a broader understanding of the Cuban culture.

Julia, in chapter five, mentioned that she realized if she “mixed up” the curriculum, students would become more engaged, in particular if she “kept them on their toes.” In this email reflection, Julia further articulated that varying modes of input would assist in engaging students in the lesson:

I really believe that being able to change modes of input and practice helps keep the students engaged. (I've even heard them say that the class goes by so quickly!) This makes me feel that they have been involved and not fatigued or bored to death. (Julia, Reflection 3, p. 1)

An added bonus for Julia was that the instructional period, for teacher and students alike, would go by much faster and they would not become fatigued or bored. In Csikszentmihalyi's (1990) *flow* state, certain conditions need to be in place so that the state “...provided a sense of discovery, a creative feeling of transporting the person into a new reality” (p. 74). One cannot stay at the same level for long once one is in the “flow channel,” one must encounter challenges and then continue to develop skills at a higher

state in order to continue to be in a flow state. Csikszentmihalyi (1990) further argued that:

It is this dynamic feature that explains why flow activities lead to growth and discovery. One cannot enjoy doing the same thing at the same level for long. We grow either bored or frustrated; and then the desire to enjoy ourselves again pushes us to stretch our skills, or to discover new opportunities for using them. (p. 75)

Julia attempted to constantly stimulate and push her students in class so that they would not experience boredom or anxiety.

Similarly, Julia's students also needed to have their learning activated by capturing their interest through listening to music. According to Shiefele (1991), the feelings of enjoyment and involvement are *feeling-related valences*. These "refer to the feelings that are associated with a topic or an object. Presumably, feelings of enjoyment and involvement are most typical of interest" (pp. 302-303). Julia reported in her first interview that:

...it eases my mind and it seems to make things more interesting. I mean you can bring a CD and listen to stuff in class, either to look at the lyrics and write down the verbs in a song, or just have it as background music, or kind of like a little cultural experience. (Julia, Interview 1, p. 6)

Through simply altering the modes of input, Julia was able to make class more interesting to her students, ultimately providing a "little cultural experience" for them.

Sophie used the movie *Tango Bar* to expose students to Carlos Gardel when covering a cultural unit on Argentina. The time leading up to the actual presentation of the movie clips in class was a long process; however, Sophie found it worthwhile since her students enjoyed the experience.

The lesson turned out to be successful I think, everything – technology wise – worked out fine, and my students seemed to enjoy the movies, the music, the dance. Some of them referred to the movies during the remainder of that week, which I thought was great, since they must have liked the experience so as to refer to it later on!! Overall I felt really good about this lesson, and I was even more gratified that my students enjoyed it as much as I did, even though it took more time in my preparation, than the usual lesson!!! (Sophie, Reflection 5, p. 1)

Sophie mentioned that students continued to make reference to the fact that students enjoyed the lesson. Through their enjoyment, students were entertained during the class period, to the extent that they continued to reference the experience in later classes.

In summary, showing students movie clips, accessing different websites through the Internet, and listening to iTunes downloads as well as CDs, provided students with an enjoyable and entertaining language learning experience that “hooked” their interest and even allowed them to experience Csikszentmihalyi’s *flow* state while learning a language in a smart classroom.

### ***Facilitates Integration of Target Areas in Foreign Language***

With the advent of new technologies, as well as the ubiquitous placement and availability of said technologies on college campuses in the United States, emphasis must also be placed on the integration of technology in the foreign language curriculum, at the same time, attempting to make connections between the language skills, culture, and other disciplines (Garrett, 1991; Kramsch, 1995). Furthermore, there needs to be a clear connection between pre- and post- activities when planning instruction around the use of technology (Salaberry, 2001). Julia found that she tended to use technology as part of her instructional practices if it “made sense”:

I guess it just depends on the activity. I mean towards the end of the chapter, and one thing that my supervisor told me was to do the input stuff toward the beginning and the production stuff toward the end of the chapter, because input's more review and output they produce it more. So it depends on what I'm doing, so if it's input like a song, well I would use the CD player or watching a movie. But if...I don't know...I guess it really depends on what is going on. I would definitely use technology for anything, as long as it made the most sense, if it was easier for me and for them to get the point across. I would type it up and put it up on the computer or the doc cam. Like take things from the Instructor's Manual and put it up on the doc cam, it's just so much easier than reading it or re-writing it on the chalkboard. Things that you would have to do if you did not have a smart classroom. (Julia, Interview 2, p. 3)

Technology in Julia's smart classroom helped her achieve the immediate outcomes she desired, "to get the point across." In the following excerpt, Julia also felt that she was able to balance the textbook activities along with activities made available to her through the smart classroom technologies:

I am glad to be able to balance "traditional" classroom activities (book exercises, small conversations, short writing activities) with technology-based activities (listening to music, watching DVDs, activities/quizzes on the doc cam, using the Internet, etc.). (Julia, Reflection 3, p. 1)

In this case the "traditional" was bridged with the "modern" technological innovations.

Florencia also reported that the technology made available to her through her smart classroom aided her in targeting some of the four language learning skills, in particular that of listening. Florencia's prime objective in bringing music to the class was to expose students to authentic accents in the target language. In Florencia's second interview when asked why she used technology, she added:

Because I have it... (laughter)...no. I use technology, for me technology is being able to show students picture...pictures appear on the big screen for me to be able to bring a CD to class and be able to play it and bring a movie and be able to play it. So, I could do without showing the pictures on the screen. But I could not do

without the listening part, I think that's why I need technology the most, for the listening and the music that I bring and the audio recordings that I play once per chapter and I could read the audio scripts myself and again, that's the same accent all the time, so I want them to be exposed to different accents, so that's why I bring the audio CDs...So for me technology in the classroom is visual aids and it's listening to things...(p. 4)

Florencia also placed a high importance on being able to provide a visual aid for her students. In this manner, students were able to *see* and *hear* the language as it occurs in the smart classroom.

Sophie believed that she could link certain elements in the syllabus if she showed students movie clips in class. As she detailed, students in Spanish 4 were asked to write compositions based on an outside movie viewing experience of target language films. The foreign films were tied into the countries covered in each instructional unit in *Punto y aparte*; however, the course syllabus given to all instructors of Spanish 4 did not provide ample opportunities for students to experience the film outside of the viewing experience and in-class composition. Sophie attempted to link these activities:

I feel that I never showed them a movie in class or a clip or...so I would like to bring that into the class and of course for the value of the movie itself, for the cultural information you can gain from the movie, different accents people, because they listen to me or listen to the CDs that come with the book, but it's really different to get a movie from Spain for example and have them listen to the "z" that is used or how they speak... (Sophie, Interview 2, p. 5)

In this excerpt, Sophie acknowledged that many layers existed in terms of the value that watching a foreign film can add for students. Furthermore, Garrett (1991) argued that:

The most important potential of the technology is for *integration*. We are concerned about the tendency in language education to see the teaching of language and culture as separate, even if complementary, but with video we can present language in its cultural context. Language and literature are often

separated in our curricula, and learners often experience a difficult transition from reading pedagogical prose to reading authentic texts and from hearing pedagogical audio to understanding natural spoken language: the computer and interactive technologies will allow teachers to select materials of all kinds, support them as learners' needs dictate, and use the visual options of screen presentation or the interactive capabilities of computer control to help students develop good reading or listening techniques. (p. 95)

In yet another type of activity, Liz found several connections with TUs own product developed by a professor in the Spanish Department. The product consists of a series of online digitized videos of native speakers of Spanish speaking about different topics at the various proficiency levels. The common term used at TU when referencing these videos is a "Pass Off." Students can click on the image and can listen to and watch the videos, at a medium close-up shot, of the native speakers without the transcript on. There is also the option to listen to, watch, and read the transcript at the same time. Pass Offs aide in connecting several areas of language skills, all at the control of the individual learner, and can be used by instructors in several ways. Liz utilized the Pass Off in the following manner:

Another cultural activity from Chapter 1 asked students to think of regional stereotypes in the US. I found in the website a professor made of Pass Offs a question that asked native speakers to reflect on stereotypes of their country. I chose 3 pass offs responding to this question and played them for the students in class before they themselves came up with stereotypes about he US. This was a nice way to introduce the activity, have them listen to native speakers with different accents and to learn a little more vocab. (Liz, Reflection 2, p. 1)

With each Pass Off exercise, Liz was able to expose students to authentic accents and at the same time enrich their lexicon. Liz made an attempt to integrate several areas within her classroom. Garrett (1991) added that:

We must choose the technology to fit the task: to expose students to large amounts of natural language audio input, we need tape, but digitized sound controlled by the computer can provide a valuable way of working intensively with selected audio segments. (p. 82)

The Spanish professor at TU had developed material that did integrate several areas, while exposing students to native accents, and making use of streaming digitized video online. Pass Offs served as a means to integrate technology and skill areas in the foreign language classroom. Liz brought this resource to the attention of her students.

Liz further argued in favor of the added dimension of improved student-teacher relationships through the use of the technologies offered by the smart classroom.

Communication and access to information facilitated the relationship between students and instructor, and at the same time, the technology served to deliver more cultural information that could also aide in a better mutual understanding. In Liz's final interview she added that the smart classroom:

...means a support for regular student-teacher relationships and an extra resource for culture, and sometimes even communicative activities, for bringing in other elements that otherwise one would have to come up with maybe in a more difficult form, preparing slides or doing a lot more library research, but I think of it as basically a tool that can be supplementing normal teaching. (Liz, Interview 3, p. 1)

Although Liz still seemed reticent to admit that technology could offer advantages in her classroom, she attributed a certain amount of merit to technology being a good supplement to her teaching.

In summary, Florencia, Julia, Liz, and Sophie all believed that the use of technologies helped them bridge several dimensions in their classroom. Florencia



believed that she could target certain language skills better with the availabilities of the smart classroom. In Julia's case "traditional" instruction was bridged with "modern" classroom practices. Sophie tied an out of classroom movie viewing experiences into the classroom through showing students movie clips. Finally, Liz introduced her students to authentic native speakers of Spanish; and she also believed that technology helped improve student-teacher relationships.

### ***Leads to Innovative Approaches to Target the Four Skills***

Newer technologies make it feasible for information and accessibility to information to be available to instructors and students. At the same time, instructors need to think of innovative approaches to language teaching in order to reach the more progressive and "modern" student that frequents today's classrooms. According to Prensky (2001), students are "Digital Natives," whereas most teachers who were not surrounded by technology growing up are considered to be "Digital Immigrants" (as cited in Richardson, 2006, p. 6). Even at the writing of this document, newer technologies, new platforms and applications make the "current trends" of the fall of 2005 outdated and outmoded. *Time* magazine named *You* the person of the year with the increasing popularity of social bookmarking, YouTube, PodCasts and the appearance of Web 2.0. With these rapidly evolving technologies, instructors struggle to stay updated with these trends so that they can create innovative approaches to reach their students.

In keeping with this new authoring control, Julia received input from her class into what type of music they would like to select. Julia reported that: "I was pleased

when I had class input when selecting which radio station to play off of iTunes. We all agreed on Spanish Tropical music to listen to during class” (Julia, Reflection 2, p. 1).

When Julia downloaded Spanish Tropical music from iTunes, she made students a part of the learning experience by receiving their input and addressing their desires in the classroom. Together they have constructed that classroom, making it more apparent that the consumer has input into the type of information they wished to access.

During Liz’s TU Teacher Support classes, she learned that there were added uses of Bb that she did not realize were available to her. Through being introduced to these new tools, her interest was peaked and she began to think of added way that she could trigger students’ interest in the foreign language smart classroom, as demarcated in the following reflection:

I think that it would be an interesting writing exercise to post discussion board topics and form discussion groups and have students correspond by computer to each others’ thoughts on the computer. I would also like to set up “chats” that are recorded, with maybe 4-5 students per chat session. It may be interesting for them to chat for 15 minutes, then print out what they wrote to each other, mark their errors and have them correct what they wrote. (Liz, Reflection 5, p. 1)

Not only is Liz planning for students to target their writing skills, but they will also undergo a process of peer editing when the transcripts are printed. In this manner, students will be learning from each other, co-constructing knowledge, while operating in zones of proximal development. Furthermore, Kern (1995) found that:

Interaction which is implemented in a synchronous electronic environment in comparison to non-synchronic interaction would generate more opportunities for students to participate, a greater amount of language production, more time to develop and refine comments, more collaboration among interlocutors, increased motivation, and reduced anxiety. (Kern, 1995, p. 461; as cited in Salaberry, 2001, p. 48).

Unbeknownst to Liz, she was already thinking of adding valuable classroom experiences to her future planning, thanks to the courses offered through TU Teacher Support.

In summary, the availability of the Internet, Web 2.0, and other tools and applications such as Bb, assisted and supported instructors in targeting certain language skills, in particular listening, with the added dimension of being able to *see* the language in use and in motion. With the appropriate amount of input of information available through the technologies of the smart classroom, output of the target language gradually should ensue.

### ***Time saved Promotes Better Use of the Instructional Period***

“Hanley, Herron, and Cole (1995) pointed out that it takes ‘virtually no time to turn on the video while it [takes] hours for [the instructor] to find appropriate pictures in magazines and to cut out and paste them for class use” (p. 64; as cited in Salaberry, 2001, p. 41). Two of the instructors, Sophie and Julia, found that using different features of the media console in their smart classrooms saved them time in the classroom. Since time was saved, this created the space and time to devote to other classroom activities. In Sophie’s second interview, she commented that her smart classroom set-up provided “...a way to save time, because you can come in prepared with something and just put it there and not have to write it on the board, which takes so much time” (p. 2). In this quotation, Sophie referenced the ease and efficiency of the doc cam in her classroom.

An added dimension to time saved would be the amount of material one can present to students in the instructional period, since additional time was made available to instructors to accomplish more in a given instructional session. In Julia's second interview she found that:

Well, you save time, you save copies. You save time though. You don't have to write stuff on the board...so you can actually get more done in the hour because you're not actually setting up. You get there before and you turn the console on before class starts and you kind of pull up all the stuff you're going to need, if you have it online or whatever...then when it comes time to switch between activities, then you have it all right there and you don't have to riffle through anything...so it makes transition faster. (p. 3)

Julia was one of the only instructors that was able to set-up her desktop in advance to the arrival of her students. This was due in part to the fact that she was able to arrange her schedule so that the period prior to her instructional sessions remained free. Also, Julia's experience with technology and being a novice teacher in the classroom may have led her to more preparation time needed in the classroom (see chapter five for more details).

However, Julia's transitions between activities were faster, smooth, and well thought out.

Julia had made it one of her personal semester goals to make her class flow more smoothly. Julia achieved a smoothly paced class simply by having pertinent websites and documents minimized in her task bar. In Julia's fourth classroom observation, I observed the following:

When students are finished with the review, Julia goes to the console and pulls up a great website on the Day of the Dead and asks students to read about the Day of the Dead. The website is on [www.azcenral.com/ent/dead/history/](http://www.azcenral.com/ent/dead/history/), and Julia had also given them a sheet of paper for students to fill in. As students read the information (in English) on the website, Julia collected the homework. (p. 1)

Through experience and experimentation, Julia was able to maximize the classroom time for herself and for her students.

To summarize, the careful thought and preparation Sophie and Julia managed ahead of a classroom instructional period lead to saved time in class, which in turn, maximized the amount of input students were able to receive in the class.

### ***Targets Different Learning Styles***

Several researchers have addressed learning differences over the past few decades. Targeting different learning styles and differences in the classroom are issues that educators must address in order to make their classroom foreign language experience more successful for their students. Galloway and Labarca (1990) argued that:

Dealing with individual differences in the classroom might seem a daunting problem for many teachers, who face multiple classes (with multiple preparations) every day with 20 or 30 students in each class. Yet most everyone agrees, at least in principle, that students must be treated as individual *persons* who have different needs, styles, and preferences. (Galloway and Labarca, 1990, p. 115; as cited in Omaggio Hadley, 2001, p. 76).

Galloway and Labarca (1990) also pinpointed that “people also tend to learn best through one or a combination of sensory modalities (through the ears, through the eyes, through touch, through movement)” (Galloway and Labarca, 1990, p. 115; as cited in Omaggio Hadley, 2001, p. 76). Florencia, who had a background in foreign language pedagogy, addressed the fact that her smart classroom provided her with more options to reach her students in the classroom, as depicted by this excerpt from Florencia’s final interview:

It gives variety to the classroom, the class, it’s not only me and the students talking and doing activities, it’s that we pay attention to a clip or we pay attention

to something that is on the big screen, or we listen to something, or we it give, it's a variety of things, and this helps people that have different learning styles. For some people it may be better to listen to something than to just read it, or maybe for some people they need to, instead of listening to what I say every morning "today we are going to do this, this, and this," a person like that it may be easier if they read it "today we are going to do this, this, and this," so, yeah, it's a variety, it gives variety. (Florencia, Interview 3, p. 7)

The variety that Florencia supplied in her classroom helped her target the different learning preferences her students displayed. Sophie also made mention of being able to add variety to her classroom in her final interview:

Yes. Because I think I've mentioned this before, all the advantages to being exposed to all these cultural information and it appeals also to different learning styles as well, you know just having something written on the screen, hearing something, there is a variety in every activity, so... (p. 5)

Sophie expressed the advantages of "appealing to different learning styles" in the classroom. The needs of auditory and visual learners were facilitated through the availability of audio and visual materials in the smart classrooms.

In addition, Florencia specified that seeing movie strips in her class would be an added benefit for her students. In her second interview, Florencia added:

... I think it makes classes more interesting and more helpful for students, I mean there are visual students who will benefit a lot more from seeing scenes from *La Habana* than just from reading what *La Habana* is like and I think that just showing clips will show them things about the culture, in that case the Cuban culture, that they could not just grasp just by reading. So for me technology in the classroom is visual aids and it's listening to things... (p. 4)

The provision of visual aids to her students was a key element of her class. Sophie also supported the need to provide students with visual feedback based on corrections on students' compositions.

...or something from the doc cam, or if you want to go over mistakes, like after the compositions I might take a few sentences that are common to a lot of people that made that mistake and I will put them on a document and put them on a doc cam and go over the sentences and correct them with them. So it's a really good way for them to see them and then for them to see me write the corrections on the doc cam... (Sophie, Interview 2, p. 4)

Not only did students receive individualized feedback on their personal compositions, but Sophie made the feedback generalized in such a way that all students would benefit from the “group feedback” she provided through the availability of the doc cam in her smart classroom. In this case, Sophie was able to provide a group learning situation, where all students were exposed to learning from each others' errors in a true sociocultural milieu.

In summary, the features available through the smart classroom allowed and were utilized by Florencia and Sophie to target different learning styles of their students. These two instructors primarily took advantage of the audio and visual capacities afforded to them by their smart classrooms. Sophie was able to individualize student corrections on compositions by generalizing student errors.

#### **4. Institutional Gains**

The three prior categories of technological growth, professional growth, and better pedagogical practices translate into overall gains experienced by the institution at large. More specifically, all instructors mentioned that the subcategory of “instructor and departmental costs are reduced” bare a direct effect on TU.

### ***Instructor and Departmental Costs are Reduced***

The University (TU) is a large public university in the southwestern United States. The Spanish Department is one of the largest departments of Spanish in the nation, and as such, the costs to run said institution are high. One of the ways in which administrators could cut costs in the department was to limit the amount of photocopies each instructor may make, this message was relayed through the coordinator and then through the course supervisors. At the same time, this pushed the supervisor to encourage the use of Bb to make documents accessible to students. Spanish 4 instructors reserved the 400 copies allotted to them for 50 students to the essential quizzes and tests administered in any given term. In Sophie's second interview, she supported the practical side of being able to post documents on Bb for students: "But then, the major advantage, and I know that I mentioned this before, is first of all for practicality. For not making so many copies, because you can just put that on the projector something from the Bb" (Sophie, Interview 2, p. 4).

In Sophie's third interview, she specifically made mention of saving cost for herself and the department. Oftentimes, when instructors had used their allotted 400 copies, rather than not have materials for their class, instructors paid for the copies themselves, in particular if last minute planning was involved. However, having the availability of Bb allowed instructors to post the material ahead of time so that students could access it and print the documents (if necessary) before class. Sophie added in her third interview that:

It also saves time for me and cost for the department, given that I can use it and not make so many copies. It saves time in the sense that I can have everything



prepared in the same place and I can just download it from Bb and everything is organized and I just scroll down and everything is there, that's good. (Sophie, Interview 3, p. 1)

To summarize, not having to exceed the allotted 400 copies a semester for 50 students saves the instructor and the department cost. With prior planning, materials can be posted ahead of time on Bb so that students can access the materials and print them if needed. An added benefit in saving cost and resources is that if more universities follow suit, the environmental resources may also be conserved.

## **CHAPTER SUMMARY**

This chapter highlighted the advantages that Florencia, Julia, Liz, and Sophie believed derived from using technology in their smart classroom, the third research question for this study. The cross-case analysis of the four participants in this study revealed several commonalities and like views. This chapter addressed the third research question: What advantages do instructors believe derive from using technology in their smart classroom? In answering this question, I found four categories, which are listed as follows: (1) technological growth, (2) professional growth, (3) better pedagogical practices, and (4) institutional gains.

## **Chapter 10: Conclusions, Implications, and Directions for Further Research**

### **CHAPTER INTRODUCTION**

In this chapter I underscore the conclusions drawn from the findings presented in this study. The two varieties of limitations addressed in this chapter are those limitations found by the (1) researcher, and (2) study design. I will subdivide the implications into two main strands: (1) implications for graduate student instructors, and (2) implications for language programs. When I address implications, I will interweave recommendations for instructors and language programs. I will end this chapter with directions for further research in the area of technology integration in the foreign language classroom.

### **CONCLUSIONS**

The purpose of this research project was to provide a thick and in-depth description of technology integration in smart classrooms by lower division graduate student instructors of Spanish at the university level. More specifically, I underscored the conceptualization and/or re-conceptualization of lesson plans in light of the smart classroom. In addition, I chronicled the challenges instructors faced, as well as advantages instructors believed derived from the use of technology in the smart classrooms through interviews, observations, teacher reflections via email, and document collection.

## **Conceptualizations or Re-conceptualizations Instructor's made to their Teaching Practices while Integrating Technology in their Smart Classrooms**

### *Florencia*

The three snapshots I took of Florencia over the course of the fall 2005 data collection semester depicted a slight increase in the use of technology from the first few weeks to the midpoint (weeks five and six), but then the use of the media console in her smart classroom decreased dramatically by the end of the semester. These increases and decreases of technology align with Norman's (1988) development of technology's U-shaped curve of complexity, the complexity in this case increasing by the end of the semester as Florencia attempted to integrate more complex elements into her curriculum. Florencia mentioned that she wanted to show more movie and video clips in her smart classroom by the end of the semester. She struggled with the equipment while attempting to show the clips, and in so doing, she consulted her boyfriend and her students to help her through the process. Even though Florencia struggled and became frustrated with the technologies available to her, she persevered. Furthermore, she realized by her final interview that she would like to incorporate the use of the Internet in the future.

Florencia's enthusiasm for the doc cam had a tendency to supersede some of the negative feelings she experienced in regards to the different applications on the computer in the media console. At the same time though, Florencia's case demonstrated that she was evolving and constantly re-conceptualizing her lesson plans in light of the use of technology as depicted by the last excerpt in the final snapshot. The strongest evidence of Florencia's re-conceptualization occurred during the second snapshot when Florencia

wanted to show the clip from *Buena Vista Social Club* to her non-smart classroom. Since she did not have a television or DVD player in her non-smart classroom, Florencia stated that she “gave them one more question for one activity and that covered for the lack, for that activity that I could not show them...but I know that my other class was better, the one with technology” (Florencia, Interview 2, p. 4). Florencia had to attempt to “make up” for the information lacking by giving them an activity that would not be as powerful as the visual moving image.

Florencia was frustrated by the fact that she could not turn off the director’s commentary option on a DVD clip she wanted to show in class; however, she did make the attempt to show the DVD and spent additional time at home learning how to turn off the commentary. Furthermore, she asked students for help and re-adjusted other activities during the execution of the class to allow for time to show the DVD. Florencia persisted and was able to deliver the information she wanted in the medium she had chosen, even if the original plan had to be adjusted. Florencia was able to evolve as an instructor, stepping away from solely depending on the doc cam to help her organize and manage the classroom, and move towards incorporating new elements into the classroom. In terms of the ACOT framework (Dwyer, Ringstaff, & Sandholtz, 1991), I place Florencia in the continuum between the second phase of *adoption*, since she was still struggling with the computer, and the final stage of *invention*; since Florencia had begun to picture what the future may look like in her smart classroom as she began to undergo a reflective process during the final interview and began to re-conceptualize her lesson plans for the next term. Florencia avidly questioned what she had done and began to

make changes. Although the activities in the class may not have changed as much over the course of the semester, Florencia began to reflect upon her instructional practices.

At the mid point in the semester the incorporation of some of the new elements, listening to a CD and showing a clip from *The Buena Vista Social Club*, functioned in such a way that Florencia continued to attempt to use these tools in the classroom towards the end of the semester. Even though the actual visual proof of Florencia's lesson planning had decreased by the end of the semester as determined by the observations; she still found herself striving to meet her goals of using more DVDs in her class (as reported in her interviews and reflections) even if it meant that she would have to sacrifice some class time due to technical difficulties.

Florencia constantly negotiated knowledge and information with her students at TU, a relationship that continued outside traditional walls of the classroom through email communication. In the past, this type of social interaction was more difficult to attain when the only source of contact was the classroom itself, when messages and communication did not extend outside of the four classroom walls. In Florencia's case, she called upon her boyfriend and her students to help her through moments of difficulty, showcasing that she was constantly developing her repertoire as a teacher throughout the semester.

## *Julia*

The three snapshots taken of Julia over the course of the fall 2005 data collection semester, underscored a marked decrease in the reliance on technology from the first few weeks, through the end of the semester with the final interview. Julia had spent up to two hours planning every Ppt presentation at the beginning of the semester, which also served as her lesson plan for herself and for her students. Julia then realized that the students' attention was always drawn to the Ppt and not to her. Although this may seem to indicate that Julia was more preoccupied with a teacher-centered classroom, where the teacher was the center of attention, the opposite holds true. Through interviews, reflections, and observations, the researcher and Julia determined that she wanted to develop her relationship with her students as well as make sure they paid attention to her. Perhaps her age and experience level in the classroom contributed to a slight power struggle in the classroom, due in part to Julia's own confidence level, since this was the beginning of her second year of teaching as the sole instructor in the classroom.

During the first few weeks of the semester, Julia admitted that she wanted the attention of her students displaced from her and onto the screen. She then realized that she had made the classroom atmosphere too impersonal and decided that she should pull away from Ppt as her main source of information delivery in the classroom. As Julia began to rely on developing her own relationship and letting students get to know her as an individual, bringing "the human" back into the experience, Julia felt more at ease in her classroom. Towards the end of the data collection semester Julia reached a comfort

level that permitted her to joke with her students. The rapport she built by the end did not interfere with Julia's goals and objectives for her lesson.

Julia felt a need to re-conceptualize her lesson plans and her conceptualization of how she delivered information in the classroom, but also how she portrayed her role in the classroom. Julia's case is an example of how, over the course of time, and through reflection and experience, she could continue to develop, as is apparent within the ACOT framework, a study that took into account that "gradually, however, new patterns of teaching and learning emerged..." (Dwyer, Ringstaff, & Sandholtz, 1991, p. 47). Julia's case further highlights that she was already comfortable using technology as a source of information and as a means to develop applications before she began teaching in the smart classroom. Since Julia did feel a great amount of comfort using technology, she used it as a shield for herself as a novice instructor in her smart classroom. Once she felt confident enough with her role as the sole instructor in charge of the classroom, she was able to step back and focus on the development of her relationship with her students.

Julia also addressed how she could better deliver the material she needed to present to her students. When Julia was able to trade the Ppt presentations in favor of an improved relationship with her students, and to find better ways to use the resources at her disposal; the classroom climate felt more comfortable and conducive to experimentation with the target language (TL) and culture. By the end of the semester, Julia had continued the reflective process and had begun to make plans for the following semester. She reported that she would continue to develop and seek a balance of her methods along with the resources in the smart classroom to add to her teaching practices.

At the mid-point of data collection, Julia had also mentioned that she intended to return to the Ppt slide-show presentations at the end of the semester once she had established a more fluid connection with her students; however, she never returned to the Ppt as her lesson plan format for presentation to her students.

By the final interview, Julia had made sense of the entire semester of teaching and data collection; she had also fully come to the realization that some trade-offs may be necessary to achieve some of the goals and outcomes she wished to attain in her class. Without having referred to theory, Julia realized that teaching required a delicate balance of three key elements: (1) the types of activities she wished to develop, (2) the transitions from one element to another in the classroom, and (3) the decision of what type of media would best lend itself for that particular activity. Salaberry (2001) underscored the importance of making decisions around the technology event that best supported the instructional goals one wished to achieve in that period. Julia realized at the mid-point of data collection that she needed to balance the textbook and activities along with the Internet and communicative class activities. Salaberry (2001) further underscored that “teachers are expected to delineate clearly specific pedagogical objectives in order to select the appropriate tool” (p. 51). At the mid-point in the semester, Julia noticed that the Ppt slide-show tool did not lend itself to her pedagogical objectives.

Norman’s (1988) U-shaped curve of complexity of technological innovations does not apply in Julia’s case, since she predominantly felt comfortable with the technologies at her disposal, due to her background in Electrical Engineering and experience as an intern with IBM. However, the ACOT framework discussed in chapter



two, places Julia in the continuum between the fourth phase of *appropriation* and the final phase of *invention*. Julia was in the fourth phase during the data collection semester, since she continued to undergo a reflective process “to question old patterns and to speculate about the causes behind changes they were seeing in their students” ((Dwyer, Ringstaff, & Sandholtz, 1991, p. 50). At the same time, *invention* also applied to Julia’s case, since she continued to question old patterns from the beginning of the semester and became critical of the use of her own technology. Her self-awareness and reflectivity pushed her to choose her tools with discretion in order to support appropriate goals in the classroom. Julia constantly put into question and re-conceptualized her lesson plans and modes of information delivery over the course of the semester.

### *Liz*

In the beginning of the data collection semester of the fall 2005, I placed Liz on one end of the spectrum regarding the value and importance that she placed on using technology in her smart classroom. Although many of her hesitations and initial resistance towards integrating technology in smart classrooms could be due to her own unease with the equipment, she did try to re-evaluate her stance. Liz constantly reflected upon her views and uses of the technology offered through the smart classroom during her email reflections and her interviews. During the first few weeks of classes, Liz did not “buy into” the idea that being competent in technology was an important determiner of teaching effectiveness. Although Liz did prove that she could still lead a successful class during the midpoint of data collection, without the use of the media console in her

smart classroom, the energy experienced in the classroom was different to an extreme. However, Liz expressed frustration that the desired qualifications of potential Assistant Professor positions required and/or wished for a basic level of competency in areas of teaching foreign languages with technology. However, Liz's stance on technology use in a smart classroom and its importance was put into question during the mid point in the semester.

According to the ACOT framework, I placed Liz between the first two phases of entry and adoption. As stated during the first phase, Liz was still experiencing frustration with the equipment. In fact, some of the frustration and distaste expressed by Liz in the beginning of the semester is echoed in this excerpt from one of the participating ACOT teachers in Dwyer, Ringstaff, & Sandholtz (1991):

If I had my druthers, I don't think I would ever look at a computer again. One of my students got into the network and lost lots of information because he doesn't know what he is doing...There are so many variables like this that we deal with on a day-to-day basis that I didn't anticipate being part of this program. I'm anxious for the weekend so I don't have to do anything. (p. 47)

Liz, like the teacher in the excerpt, struggled and became frustrated with her smart classroom during the beginning of the semester. Some of these same management and personal frustrations also resurfaced during the mid point of data collection, and at the end during the student PowerPoint presentations.

As depicted in snapshot two during the mid point in data collection, Liz was still debating what role technology should play in her classroom. She entered the adoption phase of the ACOT framework espoused by Dwyer, Ringstaff, & Sandholtz (1991), and she began to use "the new electronic technology to support traditional text-based drill-an-

practice instruction” (p. 47) as depicted with the *Juanes* music to teach the present subjunctive mood integrated with culture. During week five she relied heavily on the use of her smart classroom resources, even though she still felt uneasy with the media console and its equipment. Week seven on the other hand, showed absolutely no use of the media console and modern technologies. Instead, Liz made use of chalk and the traditional chalkboard. The mid point in the semester highlighted Liz’s struggle to integrate technology or not to integrate technology into her teaching practices.

The end of the semester showed a sharp contrast with Liz’s outlook compared to the beginning of the semester. Liz had enrolled in the instructional courses to see if there were some technological elements she could add to her classroom, and in fact, discovered the possibility of using the discussion board as an interactive element outside of classroom. Although Liz admitted to enrolling in the course because she recognized the value of being able to add this to her curriculum vitae (CV), she did gain further insight from the class that she was thinking about incorporating into classes she would teach in the future. Even though Liz reported that the restraints of the syllabus did not allow her the flexibility to incorporate certain elements, she was willing to explore them in her future job. According to the ACOT framework, this newfound attitude towards technology placed Liz in the fourth phase of *appropriation*. Teachers typical to the *appropriation* phase of instruction were those, like Liz, who believed in team-teaching, inter-disciplinary project-based instruction, and individually-paced instruction. Liz recognized that she would like to begin to incorporate these afore-mentioned elements in

her teaching that were not possible at that point due to the curriculum. A pathway to a new instructional strategy was opened to Liz through taking the courses offered by TU.

Liz's case marked a turning point for her in terms of her views of the significance technology in a smart classroom should and could have. Liz firmly believed that an instructor could still be successful without a smart classroom, as she proved in her seventh week; but at the same time, Liz recognized how much could be enhanced by the use of technology. Through enrolling in the instructional classes during the data collection semester, Liz realized that she could add a new skill set to her CV, and at the same time, she could also incorporate some added elements to her class that could enrich the experience for herself, as well as for her students. Liz was learning from more capable peers in the zone of proximal development. Liz's actual state of development was advanced in the zone closer to her potential development over the course of the semester.

According to Norman's (1988) U-shaped technology curve of complexity, Liz's complexity did take a dip from beginning to the mid point in the semester. During the first few weeks of the semester in the smart classroom, Liz was at the top of the curve of complexity. Over the course of the semester, Liz traveled down the curve of complexity, until she hit the bottom portion of the curve. Once at the bottom of the curve, she began to conceptualize how she would integrate technology into various aspects of her teaching practices. Presumably, Liz would begin to travel up the curve of complexity as she began to integrate new applications into her teaching repertoire; however, at the time of data collection it was conjecture and not yet visible.

## *Sophie*

Although Sophie was one of the novice participants under study for this research project, she was also the most technologically expert in terms of what she wished to accomplish in the classroom, and, with which tools she could best support her objectives. Although Julia had more programming experience based on her engineering background, Sophie had the theoretical background due to her area of studies and interest in Foreign Language Pedagogy (FLP). Since Sophie was enrolled in the FLP program and had experience as a foreign language student and Teaching Assistant (TA) in the German Department she was able to make decisions in terms of the use of her smart classroom that would support her teaching and not just utilize the technology offered by her smart classroom for the sake of using the technology.

In the beginning of the semester, Sophie set the guidelines and expectations for her students. Sophie arranged her Bb before the beginning of classes so that her students would (1) have access to the syllabus and other documents, and (2) realize that Bb and other technologies supported through her smart classroom would be utilized. In terms of Norman's (1988) U-shaped technology curve of complexity, Sophie did not start at a high point on the curve, in fact she started at the bottom of the U-shaped curve and set goals for herself along the way, during the progression of the semester to increase her own complexity and attain the goals she set out for herself. During the mid point of the semester, Sophie had decided she would incorporate a new use of Bb that would make discussion and accessibility to information more feasible for her students and aide her in managing her class through organizing the groups and the projects. Towards the end of

the semester, Sophie incorporated the use of clips from two tango DVDs to tie in with a chapter on Argentina, only because she deemed the clips appropriate. Sophie assured herself beforehand that the computers in both of her smart classrooms were working properly, and, had the appropriate applications to play the movie portions she wished to show her students.

The U-shaped curve of complexity in Sophie's case did not apply to the technology itself, but to the logistical constraints involved in gaining access to smart classrooms, and, in assuring that the equipment supported the applications she needed in order to display information to her students. The complexity for Sophie started at a high point when she had to learn how to navigate the system in order to be assigned to a smart classroom. Due to Sophie's experience in using technology, and in being able to work through difficult moments with technology through having a backup plan, Sophie's complexity did not seem to increase over the course of the semester.

In terms of Sophie's development according to the ACOT framework (Dwyer, Ringstaff, & Sandholtz, 1991), Sophie wavered between the fourth and final phases, *appropriation* and *invention*. During the entire semester, Sophie was in the appropriation phase, since she continued to reflect upon her teaching practices and pushed herself to add new elements to her repertoire. Sophie was frustrated by the fact that the syllabus she was given had very little space left for her to add new elements. This sentiment was echoed by one of the ACOT teachers who reported that:

In today's schools there is little chance for the individual teacher to actually change the curriculum, but we can make the way we deliver the curriculum different. And that's where the technology comes into play: to make it more

interactive, to encourage collaborative learning, to encourage exploration.  
(Dwyer, Ringstaff, & Sandholtz, 1991, p. 50)

Since the final stage, invention, is a “placeholder” for further development, I placed Sophie in this final stage, since she constantly set goals she wished to achieve in terms of finding different ways in which her smart classroom could support her learning outcomes that aligned with the course objectives set forth by the department.

### **Challenges Instructor’s Faced in their Smart Classrooms**

As I detailed through this qualitative multiple case study account of Spanish graduate student instructors using technology in their smart classrooms, three main categories of challenges were faced when comparing and contrasting the data among Florencia, Julia, Liz, and Sophie. Some of these challenges were emblematic of design constraints placed upon users by developers of materials and equipment. Norman (1988) argued that:

...we must insist that the computer developers work for us – not for the technology, not for themselves. Programs and systems do exist that have shown us the potential; they take the user into account, and they make it easier for us to do our tasks – pleasurable even. (p. 179)

If the design of the media console, the main piece of equipment that smart classrooms contain, were more easily usable by the instructors, then some of the challenges instructors experienced during data collection would be overcome. In many instances, instructors had to seek help from outside sources, losing valuable classroom time to exchange information among students and between the instructor and students. However,

a surprising outcome arose from this challenge, instructors and students assisted each other. A constant exchange of information existed among students as well as between instructors and students.

Ultimately, classroom instructors were able to navigate through their challenges to find favorable outcomes, but at the same time, these challenges presented were also due to the constraints of their own personal limitations. Several of the instructors felt that they had not been adequately prepared to teach in their smart classrooms. Julia also recognized that the only limitation one might have as an instructor, in terms of finding material on the Internet, were the boundaries of her own imagination. Sophie mentioned on several occasions, that she felt that all instructors needed more training, in particular, if the department required that all materials be placed on Bb. Not only did the GSIs feel that more training in light of technology in their classroom would have been helpful, but the more novice instructors (Sophie, but especially Julia) needed more guidance with general foreign language classroom management. Furthermore, not only did these instructors feel that they did not necessarily know how the classroom functioned, but they did not feel comfortable integrating technology into their classrooms. Garrett (1991) argued that the greatest and most important potential for technology was for integration. Garrett underscored the importance of integrating all aspects of the curriculum with culture, an area that in 1991 (when Garrett's seminal article was written) had not yet been explored to satisfaction. Only Sophie and Julia made conscious mention of purposefully integrating areas as well as technology in their foreign language smart classrooms.



In this multiple case study, the four different instructors were consistently grappling with the technologies, as well as attempting to make the most appropriate decisions for which tools to select in order to best support their instructional goals. In Julia's case, perhaps due to her experience in Electrical Engineering and software programming, selecting the appropriate tools did not present the most significant challenge. Once Julia was able to move away from Ppt presentations as a shield between herself and her students, the greatest challenge became a smooth articulation between activities. As Salaberry (2001) pinpointed, "the success of a technology-driven activity will likely depend as much, or more, on the successful accomplishment of pre- and post-activities than on the technology activity itself" (p. 51). However, it takes a considerable amount of time to be able to plan and link activities successfully.

Time became a pervasive issue for many of the instructors. Florencia, Julia, and Sophie unanimously discussed the amount of time involved in selecting appropriate materials for their students. The vast amount of materials available on the Internet became overwhelming and consumed time for these GSIs, who also needed to be able to devote time to their graduate studies. When large amounts of material are available, sorting among the plethora of information becomes a challenge. Not only must one make decisions about what kind of materials to select for students, but one must also carefully consider that in selecting this material, a certain representation about the target culture, language and people will be made. Kramsch (1999) warned us that:

... the computer with its unlimited capacity, rather than challenging our analytic and interpretive responsibilities, seduces us into believing that the truth is just around the corner of the next 'text' that will fill the ultimate gap in our understanding...Contrary to folk wisdom, understanding has become more

mediated than ever, with a mediation that ever more diffuses and conceals authority...the role of education, and foreign language education in particular, is precisely to make this mediation process visible. (p. 11).

Kramersch cautioned her readers of the tension that exists and needs to exist when in the presence of online materials that attempt to “represent” a given culture and language, the tension between the text and context should remain, so that “learning and understanding take place precisely in that gap and in the tension between the two” (Kramersch, 1999, p. 11). The mediation process Kramersch brought to light needs to become more visible in the classroom; however, this in turn places added responsibility for instructors to be armed with the knowledge to be able to mediate what is being viewed in the classroom in the guise of “representing” culture and the target language.

### **Advantages Instructor’s Believed Derived from their Smart Classrooms**

Several advantages came to light over the course of the study and data analysis that argued in favor of the existence and use of smart classrooms in foreign language instruction. All the instructors reported that the smart classroom facilitated instruction in several ways. One of the most common threads across the cases was the availability of and accessibility to information on the Internet, as well as through films and audio files brought into the classroom. Sophie argued that the technology available through her smart classroom:

...has provided my students with the opportunity to see authentic material like movies, like songs, like newspaper articles, or websites online, which it’s true, I could’ve assigned that as homework, but I don’t think it’s the same. First of all there is always the possibility that they will not do the homework and second of all, it’s the whole interaction with each other, using the specific activity that

enhances the activity itself. I think it has provided my students with this experience of having more fun sometimes, or more authentic information brought into the classroom. (Sophie, Interview 3, p. 3)

These materials presented an opportunity for students to access authentic materials through films, music, digitized online video, and audio files that presented students with native accents from the varying parts of the Spanish speaking world, and at the same time, provided a portal through which students were able to experience parts of the target culture and language as a collective experience. Furthermore, with this ingress, instructors began to tie together areas of the curriculum with innovative approaches.

Having students listen to PassOffs in class, view portions of a Mexican soap opera after having found the schedule for the television station online, listen to Spanish Tropical Music downloaded from iTunes, and then work on their verbal and written communication skills while tying together aspects of the curriculum, addresses the call for innovative approaches and an integrated curriculum scholars have been pleading for over the past sixteen years (Garrett, 1991; Kramsch, 1995; Moore, Morales, & Carel, 1998; Salaberry, 2001). Furthermore, as mentioned by Sophie, students were given the opportunity not only to be exposed to authentic materials, but to be able to interact with each other, while being exposed to new sources of information and “making sense” of this added knowledge.

The accessibility and availability of information on the Internet and through various computer applications also made the instructors feel more organized in the classroom. Through the GradeBook function of Bb, instructors were able to manage student grades with ease, improving their own feel of organization, and by extension this

added to their sense of professionalism in the classroom. Bb also aided instructors in being able to archive classroom materials and make additional documents and information available to students. In particular, Sophie and Florencia mentioned that they felt more organized and professional through using the doc cam in the classroom to present information, as well as store the information for their students on Bb. Ramifications of being able to access, store, and retrieve information from Bb (or WebSpace in Julia's case) provided the added benefit of being able to address different learning styles in the classroom.

Instructors addressed being able to target their audio and visual learners through the various resources made available to them with their smart classrooms, while being able to take into account the varying needs of these students. Students were able to listen to and visualize new information in class, but were also able to gain access to this information through the Bb folders, the same folders instructors used in the class; this extended the walls of the classroom into their homes, cars, coffee shops, or any place where they could gain access to the Internet.

## **LIMITATIONS**

I collected data from several sources for this qualitative research project in order to triangulate the data to ensure trustworthiness. I made every attempt to ensure trustworthiness of data through a careful and methodical data analysis. In addition, I gave transcripts of the interviews to participants in order to ascertain that their answers had been transcribed with accuracy. First and foremost, as is the nature with a qualitative

research project, I do not make the attempt to generalize my findings, since I only collected data from only four participants. However, I do recognize that findings in this study could apply to some like institutions. In addition, I acknowledge that even with the careful collection and analysis of data, several limitations did arise that are categorized in one of the two following manners: (1) researcher limitations, and (2) study design limitations.

### **Researcher Limitations**

In chapter three, I made mention that I was also a graduate student in the Foreign Language Pedagogy program who also taught Spanish 4 in the Spanish Department at The University. This posed the first limitation as researcher. Since I was also a classmate, colleague, and friend to some of the participants, and since I developed a rapport with other participants through my presence in their classrooms, as well as through the interview process, they may have felt more comfortable sharing personal and detailed information about their views.

Second, my colleagues and friends did realize that I was approaching them to participate in this study as a “technology person.” By this I mean that the four participants realized that I was collecting data in light of technology integration in the smart classroom, and that I may be seen as an advocate of technology to some degree. My status as a graduate student and instructor ensured that I had more in-depth information about the participants; the aim of many qualitative research projects, but at the same time the participants may have attempted to portray themselves in a more

positive light in terms of the technology usage in their classrooms. I did attempt to give extra care to describe only the relevant information to this project, although I recognize at the same time that interpretation of data falls under the subjectivity of the researcher.

Third, as an instructor in the department, I was aware that the syllabus stated that students should present with Ppt presentation software. Furthermore, at the beginning of semester GSI general meeting with the Spanish 4 supervisor, we as instructors were told we only had 400 copies and should utilize Bb to post documents for students. As a researcher I did not delve more deeply into the administrative policies set forth in the department in terms of Bb use and other mandates at the policy implementation level.

### **Study Design Limitations**

First and foremost, one of the main limitations of this current research project was not having observed Florencia's non smart classroom. If I had observed her non smart classroom, possibly more data would have been collected in terms of the conceptualization and re-conceptualization of teaching practices in the smart classrooms versus a non smart classroom.

Second, when the participants were contacted, the underlying assumption was that these instructors did feel that they integrated technology into their classrooms to some extent, since the overarching question of this research project addresses what happens when instructors of lower division Spanish integrate technology into their smart classroom. All four participants were asked if they integrated technology into their classrooms; however, they were not all aware of the technology integration literature.

Third, this research project was first conceptualized in the fall of 2004, a year prior to data collection. At the writing of this treatise in 2007, almost three years later, instructors have been teaching in smart classrooms for several years. The “newness” of being assigned to, struggling with and possibly adapting ones’ teaching practices to smart classrooms is almost a “thing of the past.” However, since technologies evolve rapidly, new challenges and advantages will surface, and instructors will continue to change.

Fourth, the first research question was not possible to address in its entirety, since I had set forth to uncover at first a conceptualization of lesson plans, and then a re-conceptualization of lesson plans in light of the smart classroom. The heart of this question addresses teacher change in light of a phenomenon. Since change tends to occur gradually over time, a semester was not a long enough period of time to fully unearth the impact a smart classroom may fully have on instructors. The ACOT project was in fact a longitudinal study that took place over several years, so fifteen weeks of a semester was not sufficient.

Last, a de-briefing session with each participant after an observation was recommended by the proposal committee; however, this was possible only on two occasions with Julia and Sophie. Due to my personal time constraints, as well as those of the participants, it was not possible to schedule de-briefing sessions. Attempts were made to address data that might have been obtained through these de-briefing sessions in the interviews and reflections.

## **IMPLICATIONS**

Over the course of data analysis, several implications arose that I divided into the following two strands: (1) implications for graduate student instructors, and (2) implications for language programs. Having two main strands does not in any sense argue for the separation of the two, in fact, the reverse would hold true, since there is significant overlap between these two areas.

### **Implications for Graduate Student Instructors**

I found five differing sets of implications subsumed under implications for graduate student instructors: (1) target students' interests and motivation, (2) seek outside help, (3) be better prepared – have a plan B, (4) model expected behavior, and (5) showcase advantages of smart classrooms to lure “traditional” instructors.

#### ***1. Target Students' Interests and Motivation***

In reaching students through the same devices they feel comfortable using, students' will become attracted to the classes and will become more interested in the subject matter. Julia mentioned that her students:

... use technology wherever they go, I mean they have their iPods and their laptops in the classroom writing on a little tablet. So why not give them the same format that they're used to using outside of the classroom. So I guess it's just ease of teaching, ease of use, and you can reach them better because you are not on a chalkboard, even though they're used to it, but at this point that generation. It's not like we're so advanced that there aren't chalkboards in elementary school and high school anymore, but...it's easier and it's pretty reliable too. (Julia, Interview 2, p. 8)



In speaking to their interests, students will become more motivated by the language learning experience.

## ***2. Seek Outside Help***

In the cases of several of the instructors, they needed to seek outside help from instructors, colleagues, friends, and ITS support staff. On some occasions, Julia and Florencia mentioned that they sought help from students who were more capable in terms of technology use in the smart classrooms. Oftentimes instructors, when faced with being in charge of a classroom for the first time, feel overwhelmed and insecure about their teaching and language abilities (as was the case of Julia); however, in admitting that one is not the “expert” tended to narrow the gap between instructor and student relations, that in the end served to create a more pleasant socially constructed learning environment.

## ***3. Be Better Prepared – Have a Plan B***

Technologies may fail due to several reasons. Florencia, Julia, Liz, and Sophie all underscored the importance of being as prepared as possible in the classroom. One must attempt to have a plan B when relying on technologies that have proven to fail in the past. Hopefully, in some cases, Graduate Student Instructors (GSIs) will force themselves to better prepare themselves for the classroom so that they can become better and more experienced classroom instructors, but at the very least, so that they can take full advantage of the classroom instructional period to make the information available to their

students with the time allotted. Julia acknowledged that she should plan more than a day in advance in her third interview:

... just planning ahead more, more than just a day in advance, now that I have a feel for the kinds of stuff we'll do on a daily basis, and the pace of the class, which is a lot slower than summer school, so now that I have an idea, you know, of how it works I can figure it out and you can always open all your applications you are going to need before the bell even rings and that way if you need something you can just click and maximize something and minimize it, rather than having to log in half way through the class because you didn't realize you needed it or something. (p. 1)

Planning ahead will maximize the amount of material presented, ease the instructors' feelings in the classroom, and allow for instructors to think of alternatives if the planned technology use does not work.

#### ***4. Model Expected Behavior***

One of the instructors, Liz, relayed the expectation set out by the course supervisor for students to present with Ppt technology at the end of the term. However, in the case of Liz, she herself did not know how to do a Ppt presentation. This factor made it more difficult for her to establish clear guidelines and expectations with her students if she herself did not model the behavior. At the same time, this is understandable since she took mainly literature classes; she admitted that her professors did not make use of the existent technologies when teaching their classes. Sophie argued that:

I think first of all it has to do with their experience as students, meaning that in literature classrooms there is not so much use of the technology because the literature classrooms are mostly based on some reading of the text and then some discussion in class, so I mean I can justify that a literature instructor since she or

he has not had the experience of being a student in such a classroom, then how can that person just decide to start this thing up. Of course your teaching you base it sometimes on how you've been taught and so I feel that in Education or in Linguistics there is use of technology in the classroom, in the classes that we are taking as students, so we have this feeling of being more comfortable with using it or thinking about "Oh, it might be a nice idea to use technology in my classroom" while the literature people might be afraid of it because they haven't experienced it as students. So, I think that might be the main reason, because if we are all receiving the same training, which we are not, but I'm saying that if potentially everybody is receiving the same training, then I don't see any other reason for not trying to use it than just the experience of just being a student in such a classroom. (Sophie, Interview 3, p. 4)

Since students were expected to give Ppt presentations, then Liz should have been able to model this behavior to them. The supervisor and the language coordinator were attempting to address this issue since the coordinator made a Bb workshop compulsory for all new graduate student instructors; however, Liz had already been at TU for several years prior to this Bb workshop and in a sense, was exempt from this expectation although the syllabus still set forth that students should present with Ppt.

##### ***5. Showcase Advantages of Smart Classrooms to Lure "Traditional" Instructors***

In the same vein as the "model expected behavior" implication, graduate student instructors who have not been exposed to the advantages modern technologies can present in smart classrooms need to be made aware of the advantages said classrooms may hold. The most "traditional" of the four participants, Liz, in terms of mandating the use of technology, argued that:

As a possibility...I would not make that the standard. I think that each teacher finds his or her own balance in the classroom and his or her own comfort level and I respect that. And my very best teachers, and I've said this before, are people who have not used technology, more than just chalk and a chalkboard and

I cannot complain about my education and the people that I most respect don't rely on these extras. So I don't think that the technology is necessary to be a wonderful teacher, I truly don't think that's the case. But it's an interesting branch that might bring some additional richness to the class, sure why not, and if that training were made readily available volunteer sessions for "how do you implement I don't know, something, in the class" for other graduate students, sure why not? I mean I would attend; I would be interested in learning more. (Liz, Interview 3, p. 6)

These instructors that believe in more traditional approaches to teaching should be made aware of the advantages since they may not have been exposed to these approaches in their teaching or in the classes they take at the graduate level.

### **Implications for Language Programs**

This strand of implications coalesces with the former strand, since some of the policies are established at the administrative level and disseminate to the instructors in their smart classrooms. The implications are as follows: (1) become more informed in current uses of modern technologies, (2) provide opportunities to talk about teaching and learning, and (3) provide balance with in-service training for instructors and professors.

#### ***1. Become More Informed in Current Uses of Modern Technologies***

In the case of the Spanish Department at The University, they were moved into state-of-the-art facilities in the fall of 2004. Suddenly professors and graduate student instructors were in smart classrooms and may not have been given any instruction in terms of the operation of these classrooms. As depicted by Liz, her literature professors did not use modern technologies in their smart classrooms, thereby rendering the "smart"

aspect of their classrooms useless. Kramsch (1995) argued for improved articulation not only in the curriculum, but among areas within foreign language departments. This is applicable in the case of TU where there are two very strong programs within the Spanish Department, Applied Linguistics and Literature. Sophie, in the Foreign Language Pedagogy program in another department at TU found the following need:

So I'm hoping that as time passes by, the language departments will see the importance of technology and how much you can bring in culture into the classroom from the target culture, and just try to do something about it. Because at this point, I feel that there is a push for technology, and I feel that honestly the departments want to promote it, but maybe they don't have the right training to provide to their instructors, and I say language departments because I feel that other departments like sciences for example, are already more advanced in terms of how they use technology in their teaching, in their classrooms. And I just feel that because languages have been the traditional way has been so much using the blackboard and writing on a piece of paper that it takes time to make that transition into something more technologically advanced. (Interview 3, p. 3)

Hopefully, with current research in foreign language education, instructors and programs will continue to become more informed after they have seen and reconciled the integration of technology into foreign language teaching practices.

## ***2. Provide Opportunities to Talk About Teaching and Learning***

Graduate student instructors, professors, students, administration, and staff do not necessarily have extra time at their disposal. Nevertheless, more scheduled opportunities need to be given to instructors so that they express their concerns and enter into a dialogue with each other to address some of the issues that arise with the use of modern technologies in smart classrooms specifically, and foreign language education in general. Goldfield (2001) stated that "we might establish a professional dialogue on graduate

student preparation and faculty development in related fields, possibly using technology as the neutral playing field for part of such an exploration” (p. 105). Clearly a need was seen for “a more direct interweaving of talents, skills, and content areas is necessary to prepare faculty members and especially the colleagues who will support them” (Goldfield, 2001, p. 104).

Dwyer, Ringstaff, & Sandholtz (1991) with the Apple Classrooms of Tomorrow (ACOT) project underscored the importance of providing their teachers with opportunities to talk about and reflect upon their teaching practices. “Teachers must be given an opportunity to reflect on their own beliefs about learning and instruction and to develop a sense of the consequences of alternative belief systems” (p. 51). One of the recommendations Dwyer, Ringstaff, & Sandholtz (1991) support is for teachers to mentor one another. The language coordinator at TU had newly established a “master instructor” program with the purpose that this instructor be observed as a model of instruction; however, the instructor chosen for the Spanish 4 level was Liz who in the beginning appeared to be a Luddite. Liz did evolve over the course of the semester and recognized some advantages of using smart classrooms. However, the implication is that even though there seemed to be a push to use the smart classroom and to go “paperless,” the appropriate venues of support through mentoring and training were not always apparent to the instructors.

### ***3. Provide Balance with In-Service Training for Instructors and Professors***

Kramsch (1995) argued for a smooth articulation between the areas of language and literature, as well as integrating the four language skills (listening, speaking, reading, and writing) with culture, while at the same time attempting to integrate technology into the curriculum. Rava and Rossbacher (1999), who provided a seminar for graduate students, realized that in refining the seminar for the following year “the challenge of balancing pedagogical theory and hands-on practice with technology” remained (p. 68). Furthermore, Moore, Morales, & Carel (1998) made the firm recommendation that “teacher development programs, pre-service as well as in-service, would benefit from courses in instructional technology” (p. 120). Sophie also expressed a desire for language department to:

... see the benefits and try to promote it, but promote it in a constructive way so that they actually give information to their instructors and they do try to help them and not just say “Oh, use the technology it’s good,” but if you’ve never seen how to use it or if you don’t have some materials or some ideas, then it’s really hard to just use it. So I’m hoping they will see the importance of providing a really really good training to their instructors and you know some background or something for them to hold them or to push them to use the technology. I think that’s all. (Sophie, Interview 3, p. 6)

Evidently Sophie has recognized the need to provide both excellent training for instructors, as well as the rationale behind the push for using technology, instead of simply being told that technology should be used. More opportunities need to become available to GSIs to continue to develop in a professional manner in terms of foreign language pedagogy and integration of areas with technology, and, to stay abreast of current technologies that can support instruction (Burnett, 1999; Garrett, 1991; Goldfield,

2001; Kramsch, 1998; as cited in Goldfield, 2001; Rava & Rossbacher, 1999; Salaberry, 2001).

Moore, Morales, and Carel (1998) recommended that “continued collaborative work between teachers of foreign language pedagogy and teachers of language courses in postsecondary institutions would help to create greater curricular articulation” (p. 121). According to Garrett (1991), this greater curricular articulation promoted by Moore, Morales, and Carel (1998) could be “strongly supported by intelligent uses of technology” (p. 95).

## **DIRECTIONS FOR FUTURE RESEARCH**

I followed a qualitative framework for this research project in order to uncover and provide an in-depth description of the impact technology integration in smart classrooms may have on the conceptualization and/or re-conceptualization of teaching practices. Furthermore, I highlighted challenges while using the technology provided in the smart classrooms. I also underscored the advantages instructors believed derived from the use of said technologies in the classroom. The qualitative lens served to offer an in-depth perspective of one aspect of the integration of technology in smart classrooms among Spanish 4 instructors at The University. Although the four participants involved were carefully selected according to pre-established criteria, and they represented different backgrounds in terms of their education, technology use, expertise in the foreign language classroom, and current areas of study and interest; a wider pool of participants may be desired to be able to generalize findings utilizing a quantitative research design.



Other directions for future research grounded in the findings of the current project are many.

First, one of the findings under challenges for this study was the lack of time for adequate GSI preparation. In the future, researchers may wish to determine if time used (lost) while planning with technology and searching for appropriate materials is made up through the advantages presented. An added area of interest is how much time is actually consumed with the planning and execution of a lesson plan in the smart classroom.

Second, another area to explore is what is the breadth and depth of student research projects due to easy access to information on the Internet. Furthermore, does the type of presentation software (like Ppt) chosen for delivery of research projects have an impact on the quality of information delivered. Kramsch (1999) began to address and caution educators of how mediation must occur when certain texts are represented on the Internet, planting the seed for more research to take place exploring the representation and mis-representation of culture and language through varying digital media. This area does seem to be fertile ground for further exploration. Some questions that arise from the findings of this project are: How is culture represented on the Internet through varying lenses? How do instructors teach culture with technology in the classroom? How do students understand culture presented in the classroom?

Third, in light of some of the advantages presented to instructors in the smart classroom, future areas for research may wish to address the importance of making foreign language education more entertaining for students. If foreign language education is found to be more entertaining thanks to the media available in the smart classrooms,

some questions I would find intriguing are: Do students learn more if foreign language class is fun? Do students retain more information in light of a more entertaining class? Will problems of attrition subside in light of a more entertaining class?

Fourth, since the findings indicate that better pedagogical practices can take place in a smart classroom with GSIs, future projects could address how the foreign language skills could be integrated to achieve benchmark proficiency levels in foreign languages. Still to be explored are: How much does student pronunciation improve over a given amount of time with the resources available in smart classrooms and/or modern technologies? Are instructors able to bridge curricula and language skills more easily with a smart classroom?

Fifth, in light of the first research question which sought to highlight the conceptualization and/or re-conceptualization of teaching practices in light of the smart classroom, I firmly believe that there is a need to conduct studies over longer periods of time so that a re-conceptualization, or simply teacher change, could be detected with more accuracy.

Finally, assiduous and detailed documentation of foreign language instructors and teachers at all levels, combined with the careful articulation among areas in foreign language departments needs to be recounted; so that educators, administrators, and policy makers can continue to be informed of the successes and failures experienced in light of the modern technologies in the classrooms. Is the sacrifice of time, effort, and other resources worth the expense of investing in a smart classroom? Florencia thought it was, as detailed by the following excerpt:

I wish all the classes had smart classrooms. I wish all of them were smart classrooms, or at least I wish all of them had a TV and DVD player. Because that would make life so much easier for me, and I guess if people saw a TV in their classroom, they might say “Ah, maybe I could bring that movie, or maybe I could show them this piece of news I recorded and find interesting.” Um yeah, that’s in light of technology, I think that would be great if all the courses were smart classes. (Florencia, Interview 2, p. 7)

Even just having the smart classroom present may incite instructors to explore alternative modes of teaching foreign languages.

## APPENDIX A

### Researcher's Timeline

Event	Description/Comments	Date
Apply for Candidacy		January/February 2005
Apply to IRB – Pilot Study		January 2005
Conduct Pilot Study	Test interview guides	Spring 2005
Doctoral Seminar	Prepare proposal	Spring 2005
Directed Research Conference Course	Dr. Reimer will pinpoint essential questions to consider for research	Spring 2005
Polish Proposal	Make adjustments after seminar	May & June, 2005
Meet with Members		May & June, 2005
Apply to IRB		June, 2005
Proposal Feedback from Supervisor	Send copy to chair for feedback	June - August, 2005
Proposal Distribution to Committee	Send/deliver final copy to committee	August 10, 2005
Proposal Meeting		August 24, 2005
Make adjustments to IRB application	Dependent on outcome of proposal meeting	End of August, 2005
Data Collection		Fall 2005
Data Analysis & Dissertation Writing		Spring 2006
Change of Committee Supervisors	Dr. Schwarzer to Dr. Moore	Summer 2006
Data Analysis & Dissertation Writing		Fall 2006
Draft of Chapters 1-3	Draft to Dr. Moore	October 31, 2006
Draft of Chapters 4-10	Draft to Dr. Moore	February 1, 2007
Draft of Dissertation	To Committee	March, 2007
Defense		April 17, 2007

## APPENDIX B

### Interview One: Focused Life History Past Experiences Teaching and Using Technology in Smart Classrooms

Instructions: Please answer the following questions with as much detail as you can provide regarding your past experience using technology, more specifically, in smart classrooms. Be assured that I will maintain all precautions in the analysis of this information. In order to uphold privacy, a pseudonym will be applied to all written and recorded materials. Furthermore, the audiotapes and other printed material will be kept securely locked to assure confidentiality.

1. Tell me about your past experiences with technology? *Here the researcher must make sure that 'technology' is a bounded term. This could be achieved by asking: What is your understanding of the term 'technology'? How so?*

Follow up: In the past, have you taken any special computer classes? Were there any requirements in your schooling or in the places where you've taught prior to coming to this institution? Have you ever taught in a smart classroom?

2. In the past, how did technology help or hinder you while preparing yourself to teach in the classroom? What about in a smart classroom?

Follow up: How did you use technology outside of the classroom? Please explain/clarify.

3. How did technology help or hinder you while teaching in the classroom in the past? And by extension, the smart classroom, if applicable.

Follow up: What challenges presented themselves to you while using technology in the classroom? Please explain.

4. How did you make use of technology in the classroom? Please give me 2-4 examples. And by extension, the smart classroom, if applicable.

Follow up: What advantages did technology hold for you while using technology in the classroom?

5. Is there anything else you would like to add about your past experiences of teaching while using technology in the (smart) classroom?

## APPENDIX C

### Interview Two: The Details of Experience Teaching Lower Division Spanish with Technology in a University Setting in a Smart Classroom

Instructions: Please answer the following questions with as much detail as you can provide regarding your past experience using technology, more specifically, in smart classrooms. Be assured that I will maintain all precautions in the analysis of this information. In order to uphold privacy, a pseudonym will be applied to all written and recorded materials. Furthermore, the audiotapes and other printed material will be kept securely locked to assure confidentiality.

1. Please describe the climate of the Spanish Department?  
Follow up: What kinds of professional development opportunities exist? What is your department like? What is administration like? Have you noticed any changes in the department in light of the move to the new facilities?
2. How comfortable do you feel using technology in the smart classroom?  
Follow up: What has prepared you to use technology in the smart classroom?  
How do you prepare yourself on a daily basis?
3. Why do you use technology in your smart classroom?  
Follow up: What benefits derive from using technology in your smart classroom?  
How is your life made more complicated by using technology in your classroom?
4. How does making use of technology and/or the smart classroom affect your (lesson) planning?  
Follow up: Please give me 2 or 3 concrete examples of how technology has facilitated your preparation? Please give me 2 or 3 concrete examples of how technology has made your planning more difficult?
5. Can you think of anything else you would like to add about your current experience teaching/being a graduate student at UT?  
Follow up: What about in light of using technology in the smart classroom?

## APPENDIX D

### Interview Three: Reflection on the Meaning Teaching Lower Division Spanish with Technology at UT in Smart Classrooms

Instructions: Please answer the following questions with as much detail as you can provide regarding your past experience using technology, more specifically, in smart classrooms. Be assured that I will maintain all precautions in the analysis of this information. In order to uphold privacy, a pseudonym will be applied to all written and recorded materials. Furthermore, the audiotapes and other printed material will be kept securely locked to assure confidentiality.

1. Given what you've said about teaching in smart classrooms, how do you understand the role of technology in your life?

Follow up: Where do you see this leading you in the future.

2. How do you see yourself conceptualizing or having to re-conceptualize your teaching practices in the smart classroom based on your past experience?

Follow up: What about based on your current experience? What about in the future?

3. What challenges do you face when using technology in the smart classroom?

Follow up: If you do, how do you overcome these on a regular basis?

4. What advantages do you see technology has provided in the smart classroom?

Follow up: How do you see this changing 5 or even 10 years from now? What about disadvantages? How would this change down the line?

5. If you could have any type of classroom or teaching situation you could (if the world were your oyster), what would this classroom look like? Why?

## APPENDIX E

# ESPAÑOL 4 – CALENDARIO – FALL 2005

**Abreviaciones:** bb: blackboard    PA = Punto y Aparte (textbook).    WKB = Manual que acompaña (workbook)

<b>(Week 1) 31-2 septiembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Miércoles, 31 de agosto	Presentación del instructor y de los estudiantes Introducción al Syllabus y bb <b>PA</b> , pp. 2-7: "Cara a cara: los 5 amigos". <b>PA</b> , p. 9: "Las 7 metas comun. y los Puntos Clave".	<b>PA</b> , pp. 9-14: read Puntos Clave (paso 1). <b>WKB</b> : pp. 1-2, A, B.
Viernes, 2 de septiembre	<b>PA</b> , pp. 9-14: Explicación de los 7 Puntos Clave. "Hablando del Tema", práctica oral inicial.	<b>PA</b> , pp. 18-19: Read "la historia". <b>WKB</b> : Review of "Puntos Clave": p. 4, Descripción: B (el café Ruta Maya) p. 7, Comparación: C (los primos Diego y Sergio) p. 8, Reacción/Recom.: C (Diego es adicto al ...) pp. 10-11, Pasado: D (los gemelos Javier y Jacobo) p. 12-13, Gustos: C (a Laura le encanta bailar) p. 14, Hipótesis: D (una situación ideal) p. 16, Futuro: C (la carrera de Sergio) pp. 16-17, Prueba diagnóstica: Para empezar.

*Print "Hablando del Tema" for next class from your bb.*

<b>(Week 2) 7-9 septiembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Miércoles, 7 de septiembre	pp. 19 Comprensión <b>PA</b> , pp. 18-25: Presentación y práctica del Vocabulario capítulo 1. pp. 22 Vocabulario "Hablando del Tema", 1.A.	<b>PA</b> , green pages: Descripción, pp. 195-200; Comparación, pp. 203-205. ( <b>PA</b> , Vocab. pp. 20-21 + "para conversar mejor", p. 23). <b>WKB</b> : Vocab. Del tema, pp. 21-22, A, B, C; p. 24, E.
Viernes, 9 de septiembre	<b>PA</b> , pp. 25-30: Descripción y comparación. "Ponerlo a Prueba"	<b>WKB</b> , pp. 26-30, <u>Los Puntos Clave Principales</u> : Descripción: pp. 26-28, B, C, D. Comparación: pp. 28-30, A, B, C.

<b>(Week 3) 12-16 septiembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 12 de septiembre	<b>PA</b> , pp. 25-30: Descripción y comparación (Cont.) "Hablando del Tema", 1.B.	<b>PA</b> , pp. 31-32: read "Lugares fascinantes"
Miércoles, 14 de septiembre	<b>PA</b> , pp. 31-35: Resumen en clase de Lugares Fascinantes. <b>PA</b> , p. 36: Lectura (introducción), "antes de leer". Actividades y discusión antes de la lectura	<b>PA</b> , p. 37: Read "los siete pecados capitales en USA".
Viernes, 16 de septiembre	Lectura: "los siete pecados capitales en USA". <b>PA</b> , pp. 38-39: "después de leer" Discusión sobre la lectura	<b>WKB</b> , pp. 34-35: Los puntos clave en contexto, paso 1.




<b>(Week 4) 19-23 septiembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 19 de septiembre	<b>Quiz de Vocab y Gramat# 1.</b> Instrucciones para "Escrito Breve #1". Repaso de los puntos gramaticales del capítulo 1. WKB pp.26 A WKB pp. 30 D WKB pp. 31 E	<b>Prepare for in-class Escrito Breve #1</b>
Miércoles, 21 de septiembre	<b>Escrito Breve # 1</b> Práctica Oral cap. 1 WKB pp.38-40 <b>Entrega "Hablando del Tema cap. 1"</b>	<b>PA</b> , green pages: Reacciones y Recomendaciones, pp. 205-213 <b>To study for Vocabulary Quiz # 2:</b> <b>WKB:</b> pp. 42-43, Vocabulario del tema, A, B, C, D; E, pasos 1 y 2 .
Viernes, 23 de septiembre	<b>Capítulo 2</b> <b>PA</b> , Vocabulario cap. 2, actividades pp. 44-51 <b>"Hablando del Tema", 2.A.</b>	<b>PA</b> , pp. 46-47: Study vocabulary + p. 49 "para conversar mejor".

<b>(Week 5) 26-30 septiembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 26 de septiembre	Repaso de Vocabulario <b>PA</b> , pp. 52-56: Reacciones y Recomendaciones. <b>"Ponerlo a Prueba"</b>	<b>WKB</b> , <u>Los Puntos Clave Principales</u> : Reacciones/Recomendaciones p. 46, B, paso 1; pp. 47-48, C, D, E.
Miércoles, 28 de septiembre	<b>PA</b> , pp. 52-56: Reacc. y Recomend. (Cont.) <b>"Hablando del Tema", 2.B.</b>	<b>PA</b> , pp. 60-63: Read "un artista hispano" Nick Quijano
Viernes, 30 de septiembre	<b>Actividades y resumen de Nick Quijano</b> <b>PA</b> , pp. 60-63: "un artista hispano" Nick Quijano. <b>PA</b> , pp. 57-63: Rincón Cultural. <b>PA</b> , p. 63: Lectura (introducción) "antes de leer". Primer párrafo lectura (hasta... <i>forma de sobrevivir</i> )	<b>PA</b> , p. 65-67: Read and understand "Soñar en cubano". <b>Ojo: long reading</b>

<b>(Week 6) 3-7 octubre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 3 de octubre	Discusión de Lectura: "Soñar en cubano". <b>PA</b> , p. 68 : "después de leer" (en grupos)	<b>To prepare for in-class Escrito breve #2:</b> <b>WKB</b> , pp. 55-57: Los Puntos Clave en contexto, paso 1.
Miércoles, 5 de octubre	<b>Quiz de Vocab y Gramat # 2.</b> Discusión de Lectura: "Soñar en cubano". <b>PA</b> , p. 68 : "después de leer" (en grupos) Actividades de la lectura en bb	<b>To prepare for in-class Escrito breve #2:</b> <b>WKB</b> , pp. 55-57: Los Puntos Clave en contexto, paso 1. Print Repaso Examen 1 from blackboard
Viernes, 7 de octubre	<b>Escrito breve #2</b> <b>WKB</b> , pp. 61-64: Práctica Oral, cap. 2. (CD o audioscript) Actividades de Repaso para el examen # 1	To review for Test # 1: <b>WKB</b> , pp. 58-60: Prueba diagnóstica cap. 1 y 2. Study for examen # 1

<b>(Week 7) 10-14 de octubre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 10 de octubre	<b>Examen # 1</b>	<b>PA</b> , pp. 74-75, Study vocabulary + pp. 76-77 "para conversar mejor".
Miércoles, 12 de octubre	<b>Capítulo 3</b> <b>PA</b> , actividades pp. 72-80: Vocabulario cap. 3 <b>"Hablando del Tema", 3.A.</b>	<b>PA</b> , green pages: Narración pasado, pp. 214-223 <b>WKB</b> : Vocab. del tema, A, B, C, D, E (pp. 65-67).
Viernes, 14 de octubre	<b>PA</b> , pp. 81-87: Narración en el pasado. Repaso de las reglas del Pretérito e Imperfecto si es necesario <b>"Ponerlo a Prueba"</b>	<b>WKB</b> , <u>Los Puntos Clave Principales</u> : Pasado, p. 72, C; p. 74, F-G <b>[ Watch a movie from the list Prepare in-class Composition 1 ]</b> ( WKB, p.37) (see blackboard to check the movie list)

<b>(Week 8) 17-21 de octubre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 17 de octubre	<b>PA</b> , pp. 81-87: Narración en el pasado (Cont.) Actividades preterito-imperfecto <b>"Hablando del Tema", 3.B</b>	 <b>Watch a movie from the list Prepare in-class Composition 1</b> ( WKB, p.37) (see blackboard to check the movie list)
Miércoles, 19 de octubre	<b>In-class Composition # 1 (entregar "Hablando del tema", cap. 2-3)</b>	<b>PA</b> , pp. 90: Read "un artista hispano"
Viernes, 21 de octubre	P A pp 91. Actividad Posada "Un artista Hispano" <b>PA</b> , pp. 87-92: Rincón Cultural. Lectura "Querido Diego te abraza Quiela"	<b>PA</b> , Read "Querido Diego te abraza Quiela" go to bb.

<b>(Week 9) 24-28 de octubre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 24 de octubre	<b>Quiz de Vocab y Gramat # 3.</b> Lectura "Querido Diego te abraza Quiela" Actividades de la lectura	<b>To prepare for in-class Escrito breve #3:</b> <b>WKB</b> , pp. 78-79: Los Puntos Clave en contexto, paso 1.
Miércoles, 26 de octubre	<b>WKB</b> , pp. 82-84: Práctica Oral, cap. 3. <b>Escrito breve #3</b>	<b>PA</b> , pp. 102-103: Read "la historia", <b>PA</b> , pp. 104-105, Study vocabulary + p. 107 "para conversar mejor". Rewrite Composition 1 to turn-in tomorrow
Viernes, 28 de octubre	<b>PA</b> , actividades pp. 102-108, Vocabulario cap. 4. <b>"Hablando del Tema", 4.A.</b>	<b>Turn-in "Composición 1b corregida"</b> <b>PA</b> , green pages: Hablar gustos, pp. 223-229 <b>To study for Vocabulary Quiz # 4:</b> <b>WKB</b> : Vocab.del tema, pp.105-107, A, B, C, D,E.

<b>(Week 10) 31-4 noviembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 31 de octubre	<b>PA</b> , pp. 110-115: Hablar de los Gustos. Repaso Verbos Gustar y simil. <b>"Ponerlo a Prueba"</b>	<b>WKB</b> , <u>Los Puntos Clave Principales</u> : Gustos pp. 108-111
Miércoles, 2 de noviembre	<b>PA</b> , pp. 110-115: Hablar de los Gustos, (Cont.) <b>"Hablando del Tema", 4.B.</b>	<b>PA</b> pp. 118-119: Read "un artista hispano" Carlos Gardel
Viernes, 4 de noviembre	<b>PA pp.119</b> Actividad sobre Carlos Gardel. <b>PA</b> , pp. 115-120: Rincón Cultural. <b>PA</b> , p. 121: Lectura (introducción) "antes de leer".	<b>PA</b> , pp. 122-124: Read "La vida anti-estrés".

<b>(Week 11) 7-11 noviembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 7 de noviembre	<b>Quiz de Vocab y Gramat # 4.</b> Lectura: "La vida anti-estrés". Discusión de lectura <b>PA</b> , p. 125: "después de leer".	<b>To prepare for in-class Escrito breve #4:</b> <b>WKB</b> , pp. 117-119: Los Puntos Clave en contexto, paso 1.
Miércoles, 9 de noviembre	<b>WKB</b> , pp. 123-125: Práctica Oral, cap. 4. <b>Escrito breve #4</b>	<b>Repaso Examen 2 go to bb</b> <b>WKB</b> , pp. 120-122: Prueba diagnóstica cap. 3 y 4
Viernes, 11 de noviembre	Repaso para el Examen # 2 <b>WKB</b> , pp. 120-122: Corregir Prueba diagnóstica cap. 3 y 4	<b>Repaso Examen 2 go to bb</b> <b>Study for Test # 2</b>

<b>(Week 12) 14-18 noviembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 14 de noviembre	<b>Examen # 2</b>	<b>PA</b> , pp. 132-133: Read "la historia". <b>PA</b> , p. 135, Study vocabulary.
Miércoles, 16 de noviembre	<b>Capítulo 5</b> <b>PA</b> actividades pp. 132-139: Vocabulario cap. 5. <b>"Hablando del Tema", 5.A.</b>	<b>PA</b> , green pages: Hacer hipótesis, pp. 229-232 <b>To study for Vocabulary Quiz # 5:</b> <b>WKB</b> : Vocab. del tema, pp. 127-128, A, B, C, D, E.
Viernes, 18 de noviembre	<b>PA</b> , pp. 141-146: Hacer hipótesis. Repaso de los 3 tipos de hipótesis. <b>"Ponerlo a Prueba"</b>	<b>WKB</b> , <u>Los Puntos Clave Principales</u> : Hipótesis, pp. 130-133, A, B, C, D, E.

<b>(Week 13) 21-25 de noviembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 21 de noviembre	<b>Quiz de Vocab y Gramat # 5.</b> <b>Presentaciones Culturales</b> Completa Hablando del Tema si es necesario <b>(entregar "Hablando del tema", cap. 4-5)</b>	Prepare your cultural presentation and study hypothesis
Miércoles, 23 de noviembre	<b>PA</b> , pp. 141-146: Hacer hipótesis. (Cont.) <b>"Hablando del Tema", 5.B.</b>	<b>WKB</b> , pp. 136-138: Los Puntos Clave en contexto, paso 1. <b>Prepare for in-class Composition # 2</b> (See WKB, p. 37) (see list of movies in blackboard)
Viernes, 25 de noviembre	<b>Acción de gracias!!!</b>	<b>Feliz día de acción de gracias!!!</b>



<b>(Week 14) 28-2 de diciembre</b>	<b>Actividades en clase</b>	<b>Tarea para la próxima clase</b>
Lunes, 28 de noviembre	<b>In-class Composition # 2</b>	Cultural presentation groups get ready to present
Miércoles, 30 de noviembre	<b>Presentaciones Culturales</b> (Decide que día haces el examen oral final y firma en la lista)	<b>Prepare for Final Oral Interview</b> (see Syllabus)
Viernes, 2 de diciembre	<b>Entrevistas orales finales</b> (no scheduled class) <b>y durante horas de oficina</b>	<b>Prepare for Final Oral Interview</b> (see Syllabus)



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## **Vita**

Vanessa Georgette Lazo-Wilson was born in Boston, Massachusetts on June 1, 1970, the daughter of Vivian Elaine Lazo and Jorge Antonio Lazo. Upon graduating from the Inter-American Academy in Guayaquil, Ecuador in 1989, she began her undergraduate studies in German and Spanish Languages and Literatures at Amherst College in Massachusetts. Ms. Lazo-Wilson received her Arts Bachelor from Amherst College in May of 1993. After teaching Spanish in K-12 settings, Ms. Lazo-Wilson began her graduate studies at New York University. In May of 1999 she earned her Master of Arts degree in Spanish and Portuguese Languages and Literatures. In August of 2002, Ms. Lazo-Wilson entered the Doctoral program in Foreign Language Education at the University of Texas at Austin.

Permanent Address:                      9417 Great Hills Trail, Apt. # 2057  
   Austin, Texas 78759

This dissertation was typed by the author.