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STUDENT ACHIEVEMENT USING WEB 2.0 TECHNOLOGIES: A MIXED METHODS STUDY

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Student Achievement Using Web 2.0 Technologies: A Mixed Methods Study

By

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A Dissertation

Presented to the Faculty of
The Graduate College at the University of Nebraska
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The need for proficient speakers of multiple languages has emerged as a result of political and economic forces in the last decade driving the challenge to find effective and efficient way to teach and learn languages. The past decade has brought numerous innovations and advances in the area of technology, which have changed the role from one of consumer of knowledge to one of producer of knowledge which has revolutionized the delivery of education.

The purpose of this mixed method study was to determine the effect of Web 2.0 technologies on student achievement. The quantitative portion of the study examined specifically student achievement based on pretest and posttest scores and examined the level of classroom community, connectedness and learning as reported by the students. The qualitative portion further investigated the ways students used Web 2.0 technologies in their language learning and their perceptions.

All statistical analysis were conducted with SPSS using a repeated measures 2 X 2 ANOVA with pretest/posttest as the within subject factor and Web 2.0/non Web 2.0 enhanced courses and beginning/intermediate levels as the between subject factors. The data indicates a significant main effect of time was present, \(F(1, 116) = 554.259 \ p < .001\]. The data also indicates that there was a 2-way interaction of time x group, \(F(1, 116) = 19.41 \ p < .001\] which was significant.
The classroom community survey indicated a higher level of student reported classroom community in the Web 2.0 enhanced courses (M=50) than in the non-Web 2.0 courses (M=45). A higher level of connectedness in the Web 2.0 courses was reported in the Web 2.0 courses (M=24) than in the non-Web 2.0 courses (M=18). However both courses had an M= 27 indicating the same level of self-reported learning.

The results from the asynchronous online interview found 22 codes which were organized into 5 overall themes: networking, convenience, enhancement, pleasure and ease of use. These themes provided rich descriptions of student experiences using Web 2.0 technology.
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Preface

“Fastest way to learn a language guaranteed” “Learn Spanish now!” These phrases, commercialized by various language software companies, poignantly reflect the marketing desires of these companies to play to people’s need for instant gratification. People want to be able to speak another language NOW! With the growth of instant communication technologies in a global society compounded with a wave of immigration not seen in the past 100 years, American society struggles with the realization that a mixture of many ethnicities and languages is the current and future reality; the melting pot, perhaps an applicable metaphor earlier in history, does not describe the needs of the citizens in the 21st century. Less than 20% of United States citizens know at least one other language, the majority of whom speak Spanish as a second language (El Mundo, 2007). Access to language study has significantly improved as a result of the internet, computer technology and digital media. What role can such multimedia play in furthering the language learning opportunities in order to better prepare globally competent citizens who can fully participate in our diverse society? The question becomes whether or not computers can actually help a person acquire another language.

The “melting pot” metaphor was originally used to refer to the assimilation of new immigrants in the United States (Booth, 1998). The term suggested that immigrants should learn the cultures, values, beliefs and language of the people of the dominant culture and language, English. Today, advocates for diversity favor the “mixing bowl” or
“salad bowl” metaphor to visualize that even as individuals retain their identity, combining distinctive cultures can make our society stronger (Booth, 1998). This combination of cultures does not take into account the retention of mother tongues. It is still a common assumption that immigrants will learn English, especially if they intend to become citizens.

The challenge is to fully realize this cultural metaphor calls for articulated k-16 language study that develops language and cultural literacy in several languages. The development of language skills in order to function optimally in the workplace and in the community aligns with the growing recognition of our interdependent global society. It is important to address the fundamental need for language learning in teacher training programs as this will trickle down to language learning in K–12 classrooms, where it is optimal to attain proficient speakers in multiple languages. Language educators seek to design vehicles for language learning that are successful—beyond the surface of just language exposure. By blending cultural identity within the context of a global society, the communication technologies available today present an opportunity to learn new languages.

In order to close the cultural and linguistic gap, multi-cultural and multi-lingual education needs to be infused into the K-16 classroom. Classroom instruction and curriculum must be effective in building proficient communicators. Current research delineates effective strategies and methodologies designed to increase language proficiency, however reports indicate that the majority of students graduating from American schools are not prepared for a global society (Adams & Carfagna, 2006). With
the advancement of technology, access to education opportunities is changing. There are now more resources than ever as tools emerge that might narrow the gap between U.S. and other nations as regards language literacies. Still, the following question remains: what technologies advance students in their quest to become linguistically and culturally prepared for the global society?

**Purpose of the Study**

To address the above question, the following mixed methods study will investigate the impact of Web 2.0 technologies on student achievement. A triangulation mixed methods design will be used; a type of design in which different but complementary data will be collected on the same topic and the results will be compared and contrasted (Creswell & Plano-Clark, 2006). In this study, survey data will be collected using the CCS (Classroom Community Scale) created by Dr. Alfred Rovai (2002), and pretest and posttest data will be collected to measure the relationship between the factors that affect student achievement. Concurrent with this data collection, qualitative online interviews will explore the perceptions about Web 2.0 technologies and student use in online language learning for students at a Midwestern community college. The reason for collecting both quantitative and qualitative data is to bring together the strengths of both forms of research to compare the results from two different perspectives (Creswell, 2003; Punch, 1998).

The pretest is designed to establish prior knowledge of the students in order to compare to the posttest data and measure student achievement. The pretest and posttest
will be carefully designed to accurately assess student achievement in a language, and it will be validated by a content expert. See Appendices J and K.

Throughout the class, students will use Web 2.0 technologies in the course for assignments, communication and practice. Based on research, the implementation of Web 2.0 applications such as podcasts, mp3s and authentic videos helps students develop their speaking and listening skills (Anderson, 2007; O’Bryan & Hegelheimer, 2007; Abdous et al., 2009; Oxford, 2008; Alm, 2008; Sykes et al., 2008). In this study, the projects in which students engage will involve these sorts of skill-getting activities. These technologies require the learner to shift from information seeker to content producer. In the course students produce authentic content for a “real” audience (Ramaswami, 2008; Soares, 2008). The audience is important as it motivates and values the work produced by the students (Warschauer, 2006). Warschauer (2006) describes how a middle school Spanish class from Howard Middle School in Maine “authored, formatted and printed out children’s books in Spanish that were distributed via a humanitarian organization to children living at the Guatemala City garbage dump.” (2006, p. 71) In this study the authentic writing assignment promoted motivation and purpose based on the authentic “real” audience who received the assignment (Warschauer, 2006). Although the students in the Web 2.0 enhanced course do not create material for an “authentic” audience, they do create materials for a quasi-authentic audience of their peers.

Students are required to complete six compositions in various creative formats. These authentic formats include letters, travel guides, fables, newspaper articles, interviews and diary entries. Students are given basic requirements and directions and
are instructed to research authentic materials to complete the assignment. Students peer edit one another’s work prior to final submission. An audience of peers can give students a quasi-real audience in order to motivate and challenge them to produce their best work. According to Purushotma (2008, p. 12) “the motivational advantages to producing work to be shared with a broader audience than just a teacher cannot be overstressed.”

Students also engage in an interactive student activities manual. These activities practice the four skills of reading, writing, listening and speaking. Students produce and listen to audio recordings based on general prompts. These prompts are real life scenarios that students could encounter while in the Spanish speaking world. Students watch authentic videos and post their reactions. They complete listening and reading exercises using authentic texts and are required to think critically and respond. Students are required to do web searches and research topics to create stories or articles. Students participate in discussions about culture. They watch authentic videos and then react to what they have seen. They are required to react to one another’s posts. Students create their own discussion topics as related to various countries and cultures studied in each chapter as well. Students keep a blog diary of their progress in the target language. Based on Web 2.0 research, tools such as blogs, discussions and wikis develop student writing, editing and reading skills (Godwin-Jones, 2008; Alm, 2008; Ullrich et al., 2008, Sykes et al., 2008; Dooly, 2008; Soares, 2008; Ramaswami, 2008; Thorne & Reinhardt, 2008). After 10 weeks of working with the language in depth and using Web 2.0 tools, students will be given the posttest to measure their achievement.
Along with the posttest, students will also be given an online asynchronous interview where they will share their experiences and perceptions about the use of Web 2.0 technology in language learning. These interviews will be closely analyzed through hand coding. In vivo codes and themes will be built from student responses. Students will also be asked to complete an online classroom community survey to measure the level of classroom community in their online language class.

During this experience, students will reflect on their use of Web 2.0 technologies, their achievement in the language and the level of classroom community. The study will measure student achievement before and after using Web 2.0 technologies.

**Research Questions and Instrumentation**

The purpose of this triangulation mixed methods study is to investigate student use and determine the impact of Web 2.0 technology of Spanish college students at a Midwestern community college. By using both qualitative and quantitative data this will help the researcher to better understand the use and effect of Web 2.0 technologies (Creswell, 2005).

**Mixed Methods Questions.**

1. How do Web 2.0 technologies affect language achievement of community college students?
2. To what extent do the quantitative and qualitative data converge? How and why?
Quantitative Questions.

1. What effect do Web 2.0 technologies have on student achievement?
2. What effect do Web 2.0 technologies have on building classroom community?
3. What effect do Web 2.0 technologies have on student reported learning?

Qualitative Questions.

1. What are student experiences with Web 2.0 technologies for community college students in Spanish classes?
2. What Web 2.0 technology tools do students use in their language learning?
3. How do students use Web 2.0 technology tools in their language learning?
4. How do students feel about using Web 2.0 technology tools in their language learning?
5. What role/s do students see Web 2.0 tools playing in their language learning?

Quantitative Data.

The research questions will be answered by collecting quantitative data using a pretest and a posttest that will measure student achievement. A classroom community survey instrument will also be administered that will diagnose the level of classroom community, level of connectedness and level of self-reported learning which occurred in the class using a Likert scale. Gathering quantitative data is important in order to measure the impact of the intervention of Web 2.0 technologies.
Qualitative Data.

Qualitative research questions will be used to guide the collection of qualitative data that seek to gather insight into the use of Web 2.0 technologies in language learning by community college students. Qualitative research data will enhance the research and give a voice to the results (Creswell, 2005).

Problem Context

Lack of multiple language fluency is a characteristic shared by the majority of U.S. citizens in spite of current educational emphases on promoting global citizenship. Teachers have the opportunity to influence this situation by encouraging their students to learn multiple languages. The sooner students can begin the language learning process the more likely they will be to achieve native fluency (Hyltenstam & Abrahamsson, 2003; Larsen-Freeman & Long, 1991, Scovel, 2000). The sole responsibility does not lie exclusively with language educators but rather is a multidisciplinary problem. Languages influence all disciplines in some way or another (Pennycook, 1994; Bourdieu and Passeron, 1990; Ivanic, 1998; Lea & Street, 1998). In order to prepare students for the future, all educators must encourage students to become citizens of the global world. When one becomes a citizen of the world, one must make every attempt to communicate in multiple languages.

Solving the complex puzzle of effective language learning in a non-immersive setting is so compelling that educators must seek answers. One potential answer is through student-centered contextualized classrooms where teachers can begin to connect
the pieces of the puzzle that achieve internalized language learning in students (Blake, 2008). When the pieces fit, teachers are able to demonstrate to students the value of learning a language.

Teachers cannot make students learn but can create a learning environment where language acquisition can occur (Corder, 1981). Through an intense barrage of technology information and experience, this researcher seeks to identify the Web 2.0 technologies that might create the very environment about which Corder is speaking. This study involves a thorough analysis of the impact of these Web 2.0 technologies on student achievement. The hope is that students will consider their future, seek to understand the communities of the world and contemplate ways of communicating in various languages.

**Definition of Terms**

The meaning of technology and linguistic terms varies across disciplines and authorities. It is important that terms are clearly defined for this study.

*Assimilation.* Occurs when one ethnic or cultural group takes on the behavior, values, and characteristics of another ethnic or cultural group while disregarding its own cultural characteristics (Gollnick & Chinn, 2002).

*Classroom Community Scale (CCS).* A one-dimensional 20 item self-survey that measures level of classroom community (Rovai, 2002).

*Culture.* Behaviors, values, languages, and beliefs that are shared by a group of individuals. A culture can be large and include all individuals. Cultures can also be
subdivisions within these larger groups. Although race and ethnicity are often used as means to delineate cultures, culture supersedes race and ethnicity (Gollnick & Chinn, 2002).

**Immersion.** Immersion refers to a person fully participating in another culture to the extent that they actually live in the culture night and day for a period of time (Stachowski & Mahan, 1998).

**Learning Styles.** Learning styles are considered to be the way in which an individual learns or the psychological and cognitive characteristics that determine the manner in which a person learns (Cupp, 2003).

**Monolingual.** A person who is monolingual speaks only one language (Gollnick & Chinn, 2002).

**Reliability.** Consistency in obtaining the survey results more than once. Types of reliability coefficients include retest, alternate forms, and split-half (Cook & Campbell, 1979).

**Validity.** The degree to which evidence and theory support the interpretations of scores (Cook & Campbell, 1979).

**Web 2.0 Technology.** Web applications that facilitate interactive information sharing, user-centered designs, and collaboration on the Internet (Selwyn, 2008; Safran et al., 2007; Greenhow et al., 2009; McGee & Diaz, 2007; Purushotma, 2006; Cormode & Krishnamurthy, 2008; Ullrich et al., 2008; Kraemer, 2008; Dooly, 2007).

There is a lack of research studies that specifically address the effect of the use of Web 2.0 technologies on achievement of community college students. Several empirical
studies address the effectiveness of online courses as a whole. For example, Cahill & Cantanzaro (1997) researched an introductory online Spanish class that integrated multimedia technologies. The technology options included synchronous chat sessions, open-ended web assignments, practice tests, and pen pal writing assignments. The study compared the responses to two essay questions from both a traditional face-to-face class and an online experimental group. There was significant difference between the writing abilities of the online students versus on campus students. This study did not, however, show a direct correlation between being online and the improved writing nor did it involve rigorous data collection. Another Spanish language study conducted by Blake and Delforge (2005) compared online versus on campus courses using discrete grammar exams. In their study, the online students did significantly better on the discrete grammar exams than did their campus counterparts. The study by Soo and Ngeow (1998) investigated pre and posttest TOEFL scores of English language learners in on campus classes, and they compared these scores with those of learners working online. The online learners did significantly better than those on campus, and they did so in a shorter period of time.

There has been some research in Web 2.0 technologies and learning in K-12 settings. In a study done by the National School Boards Association (2007) it was reported that online sharing by students’ in social network sites involves both learning and education. Sixty percent of students surveyed reported using their social network sites in order to discuss educational topics in general, and fifty percent reported talking specifically about their schoolwork (National School Boards Association, 2007).
DeGennaro (2008) describes an example of Web 2.0 tools used in an educational way by a group of students who convinced their advisors to use instant-messaging technologies in which students and advisors co-constructed goals, solutions, and "argued to learn" (p. 12).

Most research done on the use of wikis in the L2 classroom has been explanatory and exploratory in nature (Godwin-Jones, 2003; Thorne & Payne, 2005). Most research has been in the varied and creative uses wikis have played in the classroom. These uses include the application of wikis to connect methodology classes amongst universities (Lomicka, Lord, Ducate, & Arnold, 2007), to examine students’ content and composition development such as with peer editing (Oskoz & Elola, 2008), and for assessment purposes in writing classes (Kost, 2007). Based on an examination of these studies, it was found that writing improves based on the mediated context of a wiki.

The current lack of research and depth of literature in the field is evident, especially when considering studies involving rigorous and through investigation of the effect of Web 2.0 technologies. The dearth of information is more profound when narrowing the lens of research to the field of foreign language. Nevertheless, these and other emerging studies, along with ever evolving technological possibilities in the field, indicate a shift toward Web 2.0 activities with educational value. The study’s distinct combination of Web 2.0 technologies was chosen to facilitate the examination of the effect on the language learning process.

The purpose of this triangulation mixed-methods study is to learn about the impact of the use of Web 2.0 technologies on the language learning process of community college language students by merging both quantitative and qualitative data.
Limitations of the Study

This study will determine the impact of the use of Web 2.0 technologies on language learning. However, several limitations in the study should be considered in the interpretation and generalization of the findings. The researcher’s biases, prejudices and attitudes will likely shape the interpretation and approach to the study (Creswell, 2003). These biases will be reduced by using courses taught by other instructors. The researcher will have no contact with the participants and only communicate with the instructors.

The data collected from this study will reflect the beliefs of community college language students in the Midwest. Therefore, these findings may not be generalizable to other populations or regions in the United States.

The limitations of this study are the length of the interview and the mode used to interview students. The interview was online and asynchronous which does not create a dialogue between the researcher and the participants. The interview process in this study did not utilize probing or expansion questions. Many times a dialogue with probing expansion questions can provide more detailed descriptions. Another limitation was the length of the interview. There were only 5 qualitative questions which could have been expanded in a more in depth study. Another potential limitation was the researcher’s reflexivity to the study. The researcher was the course creator and tried to limit a power imbalance in as many ways as possible, but this imbalance still could have existed for some students and affected their responses and participation in the overall research.
Delimitations

Delimitations narrow the scope of the study (Creswell, 2003), which for this research means that participants will be narrowed to Spanish language students at a small community college in the Midwest who are enrolled in a beginning or intermediate online Spanish language class in Spring 2009. Findings cannot be generalized to all students.

Assumptions

Participants do not always voluntarily enroll and pay student fees to take a foreign language class. It is assumed that most students at the community college are taking a language as a degree requirement rather than as a personal fulfillment course. The courses are articulated for direct transfer to local 4-year universities. It is assumed that a substantial connection must occur in these basic language courses in order for students to continue past the basic degree requirements. Further assumptions require that students will reflect on their experiences with honesty and clarity.

Significance of the Study

Understanding student experiences of Web 2.0 technology tools in their language learning answers questions about how to design curriculum to enhance and promote language learning. The study may help educators understand what experiences are internalized by students through using Web 2.0 technology. The study will help to answer the question of what effect these technology tools have on student achievement in language learning. If this study indicates that Web 2.0 technology positively impacts student achievement, similar curricula modifications might be considered.
The study will be of interest and benefit to language educators and students specifically, but all educators and students can benefit by exploring the impact of Web 2.0 technology on student achievement in learning. College education faculty can benefit by examining the use and impact of Web 2.0 tools on learning.
CHAPTER 2: LITERATURE REVIEW

Introduction

The review of literature examines the recent history of Web 2.0 technology. There are several important pieces to look at when considering the effectiveness of Web 2.0 technologies on student achievement in an online foreign language classroom. The first section will define what Web 2.0 technology is and will cite examples specific to an educational context. It will be important to differentiate between Web 1.0 tools versus Web 2.0 tools. Understanding the technological features absent in 1.0 that are specific to 2.0 will help to highlight the particular features and tools that affect student achievement in a Web 2.0 online classroom.

Web 2.0 technologies promote the active engagement of students in the learning process (Clark, 1995; deWinstanley & Bjork, 2004). As such, the second section of the literature review will investigate the importance of student engagement and active learning. These are crucial components in the learning process. An effort will be made to establish a clear understanding of the role that these two concepts play in the learning process, and they will subsequently be tied into the technologies.

The final section of the literature review examines the idea of building community in an online classroom. Building community is achieved by student engagement and active learning and is done with Web 2.0 tools. Together these three components affect student achievement in an online classroom.
Web 2.0 Technologies

Web 2.0 technologies are some of the latest technologies currently in use today. What differentiates them from Web 1.0 technologies is the role played by the user. Web 1.0 technologies are tools and features that place the user in the role of consumer. Web 2.0 technologies, however, use tools and features that place the user in the role of producer rather than the consumer. Tim O’Reilly (2005) initially created the term Web 2.0 and used it to describe the change in the information technology world that brought the Internet to users as a platform for their creation. Web 2.0 technologies can be any of the tools or features on the Internet that allow the user to be a social producer. The “new” Internet is seen as a “participatory” web rather than a static resource. This active participation by the user enhances the tools themselves through their use. This is what O’Reilly (2003) terms as the “Architecture of Participation”. This concept has been revolutionary to the Internet and its evolution. The Internet and its capabilities have grown exponentially because of the active participation and involvement by the user in the overall effectiveness of the particular tools and features.

This map demonstrates some of the core competencies of Web 2.0 and what has come from it (O'Reilly, 2005). The products of Web 2.0 are actively changing yet the core competencies still remain central to the core values of Web 2.0.
Web 2.0 as it relates to the classroom is an exciting phenomenon. Students are no longer limited by their technology but rather the technology enhances them. In his book, *Grown Up Digital*, Tapscott (2008) identifies eight differentiating characteristics of ‘Generation Net’ pertaining to learning and Web 2.0. Students want: autonomy of their choices and expression; to personalize things; entertainment, play and social interaction; ‘real-time’ communication and high-speed access, and; the opportunity and platform to be innovative (Tapscott, 2008 p. 34-36; West & West, 2009 p. 24-25; Vgotsky, 1978). With this new generation of learners and their specialized needs, pedagogical approaches
need to adapt. With the help of Web 2.0 tools learners, are now able to “participate directly in the creation, refinement and distribution of shared content” in contrast to being merely passive receivers of information (Selwyn, 2007, p. 15). The role of learners in the Web 2.0 enhanced classroom has been transformed to enable them to become “information evaluators as opposed to passive learners who merely reflect their instructor’s knowledge” (McGee & Diaz, 2007, p. 9). As evaluators, learners begin to think critically about the information and actively engage in the production and evaluation of it through these technologies. Tapscott delineates the transition that learners using Web 2.0 tools have made from passive to active learning in his comment:

“Instead of just numbly receiving information, they are gathering it from around the globe and lightening speed. Instead of just trusting a TV announcer to tell us the truth, they are assessing and scrutinizing the jumble of facts that are often contradictory or ambiguous. When they write to their blog contribute a video, they have an opportunity to synthesize and come up with a new formulation, which leads to a giant opportunity for them. The Net Generation has been given the opportunity to fulfill the inherent human intellectual potential as no other generation” (2008, p. 98).

These technologies provide learners with limitless opportunities to expand their knowledge and the knowledge of others and they require dynamic and active involvement by the learner. Blake (2008, p. 42) restates this as he describes that Web 2.0 tools allow learners to transform from “passive consumers of authentic source materials to active author/owners of the material” they synthesize the material and contribute to the evolution of knowledge. This ownership of knowledge pushes learners to think and create at a much higher and more critical level about authentic source content. The active
engagement with the authentic source content is the basis and premise for what are Web 2.0 technologies. Based on the literature published on Web 2.0 and learning since 2006, the concepts of active participation and collaborative learning continually emerge as major pedagogical attributes of Web 2.0 technologies (Selwyn, 2008; Safran et al., 2007; Freenhow et al., 2009; McGee & Diaz 2007; Purushotma, 2006; Cormode & Krishnamurthy, 2008; Ullrich et al., 2008; Kraemer, 2008; Dooly, 2007). Ullrich et al. specifically point out that “this stimulation of active participation distinguishes Web 2.0 based learning from traditional ‘Web 1.0’ learning…where users read Webpages and solve exercises but cannot contribute…” (2008, p. 707). With active student involvement, the “Architecture of Participation” model by O’Reilly (2003) becomes apparent and begins constructing itself within the learning process. Ullrich, Rollett and Anderson all agree that Web 2.0 involves an essence of architecture to which the learners contribute information that is assumed valid and improves the overall quality of the platform thus building on itself.

The concept of the “Long Tail” in the Web 2.0 context, first utilized by Anderson (2004), is another common characteristic that researchers identify when describing the change in web architecture. In terms of learning, the Long Tail phenomenon implies that learners have significantly increased access to produce, publish, receive and give feedback on content they produce themselves using Web 2.0 technologies because of the virtually limitless amount of space, storage and accessibility of the Internet. These freedoms allow knowledge and the world to be at the learners’ finger tips.
Web 2.0 technologies when utilized in the classroom also change the dynamic between teacher and student. While students seem to have readily adjusted to advances in technology through Web 2.0, educators may not be adjusting accordingly. Levin et al. (2002), while surveying 3,000 public school students, recognized a "digital disconnect" (p. v) between students and their teachers, with students reporting that their teachers had not yet adjusted their teaching to respond to the new methods in which students communicate and use the Web beyond the classroom. The classroom environment and students have changed and as a result the role of the teacher has changed as well. Lee (2008) recognizes the role of teachers as facilitators in learning environments which integrate technology. No longer is the teacher the sole knowledge source. Web 2.0 technologies make “knowledge decentralized, accessible and co-constructed by and among a broad base of user” (Greenhow et al., 2009, p. 247). While the constructivist classroom may have collaborative benefits based on the Web 2.0 tools used, Ullrich et al. (2008) and Angeli (2008) offer important considerations before making the transition to an entirely Web 2.0 class. Based on the analysis from a study done on micro-blogging, Ullrich found that although students encouraged one another to participate, “unconstrained active participation results in distractions”. The researchers suggest that, although Web 2.0 technologies are successful at “stimulating participation”, the teacher must still maintain an active role as the discourse mediator (Ullrich et al. 2008, p. 712). As validated by the micro-blogging study, active participation and collaboration can have negative educational effects when teachers do not maintain their roles as discourse mediators. The technologies require educators to be diligent reflective practitioners.
Educators should recognize the difference between “collaboration as the take and exchange of information, and collaboration as productive exchange and construction of ideas leading to learning gains” (Angeli 2008, p. 274).

Some researchers argue that Web 2.0 tools are new innovative pedagogical approaches to reach the “new” generation of learners while others insist these are old approaches in a new package with same underlying goal. McGee and Diaz (2008) suggest that Web 2.0 technologies afford learners similar educational benefits that learner-centered, pedagogically driven instruction does. The researchers state “emerging technologies are designed to assist learners in becoming active, engaged learners…[they] rely on and interact more with other learners, further building and constructing each other’s knowledge” (p. 9). The co-construction of knowledge is the same underlying goal as Web 2.0 tools while the approach can be arguably different and new. These new technological tools have impacted E-learning by creating a modern learning process which involves “collaborative aspects and active contributions to learning content” (Safran, et al., 2007). A paradigm shift has occurred in E-learning where the focus in no longer on the student interaction with the computer but rather the student interactions with other people via the computer (Kern and Warschauer, 2000 qtd. In Dooly, 2007, p. 64). This shift requires a better understanding of how the communicative aspect of Web 2.0 technologies intersects with student achievement and learning.

Anderson (2007), Ullrich et al. (2008) and Rollett et al. (2007) delineate common attributes of Web 2.0 technologies and their implications on pedagogy. Web 2.0 tools utilize technology that affords the user or learner the opportunity to express themselves
individually (blogs) or collaboratively (wikis), visually (video-casts) or aurally (podcasts) in a user-friendly platform that emphasizes organization and effectiveness (Rollett et al., 2007, p. 88). Some of the key features which are present in many online classrooms are discussion boards, homepages, e-mail, blogs, wikis, electronic journals and chat just to name a few.

**Discussion Boards**

Discussion boards are areas of an online classroom where all learners discuss a specific topic. According to Rovai (2001), the discussion board tool of an online classroom is the second most positive and critical aspect in an online class (Rovai, Building Classroom Community at a Distance: A Case Study). The keys to success are to have small groups participating in the discussion board and have the instructor as the facilitator. This helps to create the “community of practice” (Kling & Courtright, 2003). There are two types of discussion boards: subject specific and non-subject specific. The non-subject specific discussion boards attempt to replicate the social aspect of a face-to-face classroom. Examples of non-subject specific folders are: autobiography folders, cybercafés, prayer requests, devotionals, and ritual folders. These gathering places provide a tool to create student-student and student-instructor connectedness. Students use these tools only as much as they see it as being beneficial. The most popular non-subject specific folder was the autobiography folder according to the case study done by Woods and Ebersole (2003). This study was done using two online courses and 4 non-subject matter specific folders in each course. There were multiple data collection
methods to find which folder helped build a positive faculty-student relationship, positive student-student relationship, the greatest sense of online classroom community and the greatest overall course satisfaction. The autobiography folder provided a tool for social interaction between all members of the class and provided the most overall course satisfaction based on the positive social component.

**Personal Homepages**

Personal homepages are another tool that helps to create community and student-student engagement in an online class. A personal homepage is a page on the web designed to give an introduction to a person or persons. This feature is similar to the non-subject specific autobiography discussion folders. The personal homepage creates an electronic personality with many technology possibilities. Homepages can include photo and/or video introductions. This space is a way for students and instructors to represent themselves virtually and get to know one another in an online classroom.

**E-mail**

Building community is about communication. E-mail is typically the primary mode of communication in an online classroom. An email is a method of sending messages from one person to another through electronic means. Email can be written or conducted through audio. This communication can be one-way, from student to instructor, or two-way, between student and instructor. Instructor-initiated email is extremely important to students as it provides a social presence (Orey, Koenecke, & Crozier, 2003). Students feel most successful when interacting not only with their peers
but with the instructor as well. One method to personalize or “humanize” email can be done with the use of “emoticons”. “Emoticons are short combinations of textual characters that resemble facial expressions 😊” (Rovai, 2001, p. 42). This direct communication method provides the social interaction which helps build community in an online classroom.

**Blogs**

The word blog is a contraction of the words web and log. Blogs are web dialogs that provide a threaded record of a conversation between groups of people. This is very similar to discussion boards since they both are threaded discussions. The difference is that a blog will start with a question or theme and then become conversational in writing style whereas a discussion board will have a theme and remain generally within that theme and will be more scholarly in writing style. This tool helps students create a sense of belonging and creates a conversational tone amongst them in their interactions. See Appendix B (Woods & Baker, 2004).

**Wikis**

The word wiki originates from the Hawaiian words “wiki wiki” which mean super fast. Wikis are a collaborative site that allows for content to be added or edited instantaneously. This tool helps to build community in an online classroom, because learners have equal ownership in a creation. Students actively interact with one another to create content. See Appendix B (Woods & Baker, 2004). This interaction is two-way
communication from student to student that promotes collaborative knowledge construction (Ouzts, 2006).

**Electronic Journals**

Electronic journals are similar to discussion boards and blogs as they provide personal perspectives on subjects. The difference is that electronic journals are spaces where students can explore their own thoughts and ideas without concerns for the formalities of grammar and spelling. It is a form of free expression. Electronic journals can be private between the student and instructor or collective, which is open to all learners in the class. According to one online researcher, “There are always students who are reluctant to speak. Given the opportunity to 'speak' at the keyboard, many found a voice in this class” (Bender, 1995, p. 39). This voice is the vital connection between student-student and student-instructor. These connections are the threads to building a community. By using electronic journals, “Students will get to 'know' each other in unanticipated ways” (Bender, 1995, p. 42).

**Chat**

Chat is an asynchronous exchange of comments or questions in an online environment. This tool is very similar to blogs, only blogs can be asynchronous or synchronous. Chat (live chat or chat rooms) can be an effective tool in creating a strong online community, and is an opportunity for student-student interaction or student-instructor interaction. Student-student interaction can occur when two or more students agree on a certain time to engage in a chat. Utilizing chat can facilitate group work
and/or offer peer support. Student-instructor interaction can occur when one or more students agree with the instructor on a designated time to meet which can be utilized as “online office hours”. This asynchronous exchange most closely replicates the verbal exchange in a face-to-face classroom. Active interactions in a chat solidify the community connections and interactions in a classroom.

**Student Engagement and Active Learning**

Web 2.0 technologies support student-student and student-instructor engagement in an online classroom. This engagement is evidence of the active student participation in the learning process. Ultimately, Web 2.0 tools function “innately”, as suggested by Ullrich, and as a pedagogical tool “characterized by social learning and active participation” (2008, p. 709).

Student engagement is a goal in most face to face and online classrooms and creates a social and active learning environment. This engagement, as you will see in the third section, helps to build a greater sense of classroom community. In a general sense, motivation drives student engagement and thus student engagement increases learning.

There are many factors that motivate learners to learn, and motivation is a key component to the working memory (learning). The more motivation a person has to learn, the more engagement the student has while learning. Therefore, the more time information is processed or rehearsed in working memory, the greater likelihood it will move to long term memory. Brooks and Shell (2007) defined motivation as the conscious or subconscious allocation of working memory to particular task. Motivation
however cannot be separated from emotion since both influence cognitive load. Motivation and emotion can increase the allocation of working memory resources provided that these are regulated (Brooks & Shell, 2007). The factors that create motivation vary from student to student but many motivators are explained through such theories as Human Capital Theory (Becker, 1964), Attribution Theory with an educational emphasis (Weiner, 2000), Flow Theory (Chan & Ahern, 1999) and Social Learning Theory (Bandura, 1963). These theories provide evidence that motivation is a key element in the learning process. Many scientists and theorists have explained the origin of these motivators and how they are apparent in a classroom setting. One thread that is apparent in all theories is that motivation and learning cannot be separated from emotion and engagement. As Graham (1991) wrote, “A viable theory of motivation for educational psychology must be able to incorporate emotions. After all, the classroom is a place of multiple affective experiences with motivational significance, including those feelings associated with achievement success or failure, as well as acceptance or rejection by others” (p. 16). According to Rueda and Chen (2005) these motivational factors vary across cultural and ethnic groups. The Unified Learning Model (ULM) by Brooks and Shell (2007) describe that there are individual differences as to the amount of allocation of engagement an individual gives to a particular item to be learned. Ellis and Ashbrook (1988) suggested the resource allocation hypothesis which states that one’s performance on a task is dependent not on the amount of working memory capacity a person may have, but rather on the extent to which that working memory capacity is being allocated to the task. The motivational beliefs/factors differ but all groups still have motivation and
engagement as a key component to the learning process (209). Brooks and Shell (2007) concurred and expanded upon this concept when proposing the Unified Learning Model.

Figure 2—Motivators for learning and working

Figure 2 (Little, 2003) shows that learning motivation and engagement is influenced by the school’s social and cultural environment as well as the social definitions of work which motivates a learner (Little, 450). One’s community affects the amount of student engagement.

According to Bowen (2005) student engagement is defined as being actively involved in the learning and is a four stage process. This process requires that educators: 1) involve students in the learning process 2) involve students in new experiences 3) involve students in the context of the learning and 4) involve students in the human element of learning. The active involvement in learning increases the amount of
learning. “Most students will learn more if they are actively involved in the learning process somehow” (Haley & Heise, 2008).

**Building Community**

What is a community? What is a classroom learning community? The definition of classroom learning community according to Alfred Rovai (2002) is based on the following characteristics: “(a) the setting is the world of education; (b) the primary purpose is learning; and (c) the community is based on a fixed organizational tenure, that is, a set length of the course or program in which members are enrolled” (p. 34). A learning community is then a group of people who share common characteristics or beliefs and who are actively engaged in learning from each other. According to Rovai a classroom learning community can be seen in four dimensions: spirit, trust, interaction, commonality of expectations and goals (which means learning). Spirit is the bond that connects student-to-student and student-to-instructor. Trust is the reliance students have on one another and their instructor. Interaction is the active involvement from one student to another and from student-to-instructor. Commonality of expectations and goals is the commitment each student has toward their learning and the commitment the instructor has for facilitating this learning (Rovai, 2002). These dimensions define a classroom learning community.

**The Importance of Community**

Why would one need a classroom community? The importance of community can be seen in all areas of life, especially in the classroom. In a face-to-face classroom,
building community is based on the face-to-face human interaction that takes place between students and instructors. In the virtual classroom a community is based on different interactions. Both classroom environments still need a sense of community to be successful. According to Krashen (1983), by creating a community of learners one lowers the affective filter which inversely increases the comprehensible input of learning which students can process. Thus, this “sense of community”, increases students’ capacity for processing the new material, with improved achievement being the learning outcome.

The community of learners also fosters deeper learning through interactions with one another. According to Fisher, “Learning may be best achieved through the social construction of knowledge in a ‘learning community’—an environment where the student is both a member of a learning community and also an agent of learning within the environment” (Fisher, 2002-2003, p. 245). In the study done by Ouzts (2006) he found that students scored higher on the Classroom Community Scale (CCS) when there were interactions occurring in the classroom between student-student, student-instructor and student-content. Student engagement promotes ownership of learning that thrives in a community of learners. Students who feel more connected to the classroom community have greater success in their completion of online course and programs (Rovai A. W., 2005; Palloff, 1999). “Developing a learning community creates an environment that empowers students to construct their own meaning from information and resources presented to them in courses and trainings. It also creates a time for reflection” (Fisher, 2002-2003, p. 245). This act of processing information to develop one’s own meaning
and then reflecting allows for deeper learning to occur which activates connections to prior knowledge (Chapman, Ramondt, & Smiley, August 2005). Building a community allows for more learning to occur through an increase in comprehensible input, student ownership of learning and deeper learning processes which take place. These positive aspects of building a community can result in increased student achievement and learning.

Web 2.0 technologies can effectively engage students in the building of a community. These engaging technologies facilitate the use of a learner-centered method of instruction called the Community of Practice. This method allows students to be part of a framework of learners that has a social construction rather than individual learners isolated from one another in the learning process. This collective structure increases student achievement through the nature of the peer pressure of social obligations (Lave, 1991). With the reemergence of the constructivist theory of learning based on the abilities of Web 2.0 technologies, the structure of online learning has changed (Simoes, 2008).

**Summary of the Literature Review**

Several important problems and trends emerged through the literature review. One recurring theme was the impact Web 2.0 tools can have on the learning process. Another theme was that the research on the importance of building classroom community is still in progress, developing to meet the new needs of teachers in diverse classrooms. Additional concerns centered on the need for training and guidance on how to incorporate
Web 2.0 technology tools effectively in a classroom. This requires all teachers to have full competence in the technology as well as a commitment to create effective pedagogy to improve instruction and optimize student learning.

This investigation seeks to learn about the impact of the use of Web 2.0 tools on language learning since both methods are grounded in students as producers of knowledge.
CHAPTER 3: RESEARCH DESIGN

Introduction

The purpose of this triangulation mixed methods study is to understand student use and determine the impact of Web 2.0 technologies for Spanish college students at a Midwestern community college. This chapter will focus on the rationale and methodology developed to answer the research questions. The researcher will triangulate quantitative and qualitative data as well as the participants to provide a comprehensive analysis of the research problem (Punch, 1998). Quantitative studies focus on measurements and amounts of the characteristics displayed by people or events while qualitative studies involve the description of characteristics, organizations, communities, people, and events (Thomas, 2003).

Methodology

The convergence triangulation mixed-methods research study allows the researcher to combine the strengths of quantitative and qualitative methods of inquiry while simultaneously compensating for the known weaknesses of each approach (Creswell, 2003; Punch, 1998). Equal emphasis will be given to quantitative and qualitative data. This design will allow the researcher to separately collect both forms of data, maintaining the independence of the data analysis during the study, and then integrate the information in the interpretation of the final results (Creswell, 2005).
Since there is a gap in the literature, the quantitative database and qualitative database will be converged in the interpretation of the results through a narrative. The results will be compared and contrasted. According to Creswell and Plano-Clark (2006), “Researchers use this model when they want to compare results or to validate, confirm, or corroborate quantitative results with qualitative findings. The purpose of this model is to end up with valid and well-substantiated conclusions about a single phenomenon.” (p. 64-65). This study will allow for a better understanding of the uses and impact of Web 2.0 technologies.

**Purpose of the Study**

The purpose of this triangulation mixed methods study is to understand student use and measure the impact of Web 2.0 technologies for Spanish college students at a Midwestern community college.

**Research Questions and Instrumentation**

**Mixed Methods Questions.**

3. How do Web 2.0 technologies affect language achievement of community college students?

4. To what extent do the quantitative and qualitative data converge? How and why?

**Quantitative Questions.**

2. What effect do Web 2.0 technologies have on student achievement?

2. What effect do Web 2.0 technologies have on building classroom community?
3. What effect do Web 2.0 technologies have on student reported learning?

**Qualitative Questions.**

1. What are student experiences with learner initiated web production for community college students in Spanish classes?

2. What Web 2.0 technology tools do students use in their language learning?

3. How do students use Web 2.0 technology tools in their language learning?

4. How do students feel about using Web 2.0 technology tools in their language learning?

5. What role/s do students see learner initiated web production tools playing in their language learning?

IRB approval (#2008099341 EX) was sought and granted prior to data collection (Appendix D). Participants were purposefully selected because they were enrolled in either beginning or intermediate online Spanish courses in the summer or fall 2009 quarter and agreed to the informed consent form (Appendix E). Both intermediate and beginning students (those in their first quarter and those in their third quarter of language study) were interviewed because they were able to provide the researcher with a varied description of their experiences accounting for the first time language learner factor. Community college students were selected, as noted previously, in order to provide a voice to students who are typically unheard and do not have extensive backgrounds or
access to Web 2.0 technologies. This was also based on the convenience of the sample for the researcher since this was her place of employment.

Participants were selected using criterion sampling based on their class and instructor. According to Patton (2002), criterion sampling can be an “ongoing program monitoring system” and it works with “quality assurance efforts”, which is the goal of this study (p. 238). The participants did not receive any type of compensation for participation and did not experience any type of punitive recourse if they did not participate. The reciprocity for the participants was that they had access to the results of the study and the results were shared with community college faculty with the hope that the data would have a transformative effect on their pedagogy in using Web 2.0 technology.

The quantitative research questions were answered by collecting the results from the pretest and the posttest (Appendix A). Also data were collected using the classroom community survey. The survey instrument was a 20-item Likert scale that has been tested for validity and reliability and diagnosed the level of classroom community. This survey self reports students’ perceptions of their classroom, learning and interconnectedness among classmates and instructor. The quantitative analysis included a detailed description of the population and a discussion of the sample reviewing the characteristics of participants and nonparticipants. A repeated-measures 2 x 2 ANOVA where the factors were group (Web 2.0 and non-Web 2.0), level (Beginning and Intermediate), and time (pretest and posttest) was used to analyze the pretest and posttest scores. Descriptive statistics were used to evaluate the self reported level of classroom
community, connectedness and learning by participants between groups (w/Web 2.0 and w/o Web 2.0).

Qualitative research methodology was used in order to gather the first-person perspective of the students on their uses of Web 2.0 technology in language learning. There was a need to capture the voices and see emergent patterns in the students’ actions since they were active participants in the use of this new technology. A phenomenological online asynchronous interview was utilized to enable the researcher to collect diverse first-person experiences (Thomas & Pollio, 2002). This type of research is one in which the participant is able to share his or her experiences about a phenomena with little to no involvement from the researcher (Appendix B). The quality of the interviews, rich with details of both negative and positive experiences, show evidence of student experiences in spite of the power imbalance between student and instructor. The interviews provide succinct responses to the interview questions.

The online asynchronous interview used five open ended questions and was administered online through the course management system, Angel, during the summer and fall 2009 quarter at a Midwestern community college. The online interview was an optional part of two online Spanish courses course, one beginning Spanish course (first quarter language class) and one intermediate Spanish course (third quarter language course) (Appendix B). The research questions asked were:

1) What are student experiences with Web 2.0 technologies for community college students in Spanish classes?
2) What Web 2.0 technology tools do students use in their language learning?

3) How do students use Web 2.0 technology tools in their language learning?

4) How do students feel about using Web 2.0 technology tools in their language learning?

5) What role/s do students see Web 2.0 tools playing in their language learning?

From the responses to the questions, a verbatim text was downloaded and printed for each question from the asynchronous online interview. Each of these responses was interpreted using qualitative coding methods. The responses were hand-coded identifying significant emergent codes in each response. The codes were carefully analyzed and categorized into an overall series of themes. The process of interpretation that was followed in this study was the responses were read aloud until a change in topic was perceived to have occurred, at which point the reading stopped to underscore phrases that seemed to be prominent and/or to articulate significant emergent code/s. This process was then repeated to ensure all codes were identified. Then the codes were grouped and categorized into five to seven themes. These themes were considered credible if the specific descriptive themes were supported by textual support or “in vivo codes”; they were considered revealing if they gave the reader a new and deeper understanding of the phenomenon as described by participants (Creswell, 2005). This implies that the audience would be able to read the results of the study, make connections between the themes and the text, and come away with a well-rounded view of the central phenomenon.
Transcripts were kept in a locked cabinet in the investigator’s office. Only the principal and secondary investigators had access to the documents.

The concurrent triangulation mixed methods design was used where quantitative and qualitative procedures were conducted separately from each other in order to maintain the independence of the data analysis. Equal emphasis was given to quantitative and qualitative data and the findings were converged into the final results.

Population and Sample

This study took place at a Midwestern community college. As detailed in the *Midwestern Community College 2002 Self-Study Report*, this institution is a full-service public community college which is partially supported by revenues produced from 641,120 (U.S. Census Bureau, 2007) taxpayers. It serves an enrollment of more than 30,000 credit students. Based on the statistical projections, annual credit headcounts are expected to increase to 40,000 in 2015 and 45,000 in 2020 (p. 140).

The community college revenue includes state aid (36.3%), local taxes (35.8%), tuition (25.2%), grants (0.6%) and miscellaneous resources (2.1%). Expense categories include personnel services (72.5%), operating expenses (17.9%), capital outlays (4.2%), supplies/materials (2.9%), student aid (1.7%) and travel (0.8%) (p. 86). The personnel service expenses include the salaries for 202 full-time community college faculty. Nearly half of the faculty members possess credentials exceeding the minimum educational requirements, where 88% have at least a bachelor’s degree, 65% have at least a master’s
degree, and 7% have doctorates (p. 59). The Midwestern community college employs 490 adjunct faculty who teach 51.7% of all credit hours (p. 61).

Being an open-enrollment institution, the general admission requirements do not require a formal application. The requirements for registering for courses are students must be at least 18 years of age, have a high school diploma or the equivalent, and have the ability to benefit from the educational experience. The community college operates on a quarter-system, offering credit courses at three campus locations, four center sites, and various other locations including area high schools and community centers. The average class size is 18 students. Online courses at the institution began during the 2000–2001 academic year and now have an estimated enrollment of 6,000 online students. The community college offers students more than 100 program options and awards degrees, certificates, and diplomas (p. 28).

The student population in the community college in general represents the working class. These students have not all had the access to technology that many students at a typical university have had. The population contains a wide range of ages where the average age is 27, those between the ages 20 and 24 represent the largest age group. Sixty-seven percent of the students report being married and approximately 40% consider themselves the head of household (p. 51). With respect to gender, approximately 60% of the student population is female. The community college serves a minority student population totaling 21.4% of total enrollments as compared to the total minority population in the state of 17%. Upon graduation, 97% of alumni remain in Nebraska to work. The mean GPA was 3.06 ($M$) for the general community college student
population and 3.15 ($M$) for the community college online student population. Minority students comprised 12.70% of online enrollments while 23.35% of total student enrollments at the Midwestern community college during the 2008-09 academic year.

The validity in this study was maintained by triangulating the data gathered using the online interviews and comparing them to the quantitative data gathered from the pre and posttest results as well as the classroom community scale. The data was also triangulated between participants in the beginning Spanish class and the intermediate Spanish class. According to Hatch (2002), “Triangulation of unobtrusive data with data from other sources is one way to improve confidence in reporting findings based on such information” (p. 121). Also, negative case analysis was used by illuminating several of the negative cases which were in contrast to the themes gathered. These cases were intentionally sought since they did not fit the themes and so that the research provides a complete picture of the data. Examples of these are found in the findings section under the appropriate theme.

Qualitative researchers are responsible for the accuracy of qualitative data (Creswell, 2003). To ensure reliability and validity, the verification procedures employed in this study are:

1. Clarification. The researcher’s reflexivity (attitudes, prejudices and biases) may influence the interpretation of the study (Creswell, 2003).
2. Transferability. Themes will come from descriptions and codes found in the data. (Creswell, 2003).
3. Triangulation. Findings from differing research tools will be searched for convergence and participants will be triangulated as well (Stake, 1995).

5. Attentive engagement and careful observation. Data collection and analysis will be carefully designed for possible duplication of the study (Creswell, 2003).

6. Peer debriefing. Colleagues will debrief the data and results to increase reliability (Creswell, 2003).

7. Negative case analysis. Negative cases are used to give a complete picture (Creswell, 2003).

Mixed methods research can play a supportive/informative role with either quantitative research or qualitative research being the main form of research (Tashakkori & Teddlie, 1998). This support role helps provide reliability and validity to the overall study by combining the two methods.

**Limitations of a Concurrent Triangulation Design**

The limitations of the concurrent data collection model include the difficulty comparing the results of two analyses using data of different forms. It is possible that one form of data collection might introduce bias that would confound the results from the other form of data collected from the same participants. This method may also result in unequal evidence within the study (Creswell & Clark, 2006).
Research Permission and Ethical Consideration

Individuals participating in this research provided informed consent and were free to withdraw from the research at any time without penalty. Anonymity and confidentiality were important considerations. Participants were assigned fictitious names and numbers. The location of the study was not revealed. Participants were informed that while summary data would be disseminated to the professional community, responses would not be traceable to individuals.

Ethical issues were addressed at each phase of the study. First the study received IRB approval before gathering any data. See Appendix D. An informed consent form for all participants who wished to participate in the study was used. See Appendix E. In the data collection, the power imbalance between teacher and student was avoided by having another instructor teach the course and give the online asynchronous interview which allowed the students to respond anonymously.

The researcher’s reflexivity to this project was that she is a Spanish instructor currently using Web 2.0 technology in her classroom teaching both online and face to face. She believes that Web 2.0 technologies can help students increase their learning achievement when utilized properly. The researcher has a vested interest in seeing what student experiences are using these technologies and which technologies they are using. The researcher is a reflective practitioner and hopes to be able to gain insights in order to modify pedagogy to be able to be a more effective instructor and create a more student-centered classroom. The researcher wants to know which Web 2.0 tools students are using in their language learning, how they are using them and if they are effective in
increasing student achievement. As a result more activities may be created that students find beneficial and meaningful to their learning process. This study has important implications for the researcher and for future students as regards their language learning process.

Conclusion

The purpose of this triangulation mixed methods study was to learn about the impact of Web 2.0 on the language learning of community college students. The researcher converged quantitative data gathered through the pre and posttests, the Classroom Community Survey and the qualitative data gathered through asynchronous online interview. This data will help the researcher provide a comprehensive analysis of the research problem (Punch, 1998).

The results of this study may be used to (a) create effective online and face-to-face language courses using Web 2.0 technologies, as well as influence the pedagogical decisions of all educators in the use of Web 2.0 technologies; and to (b) improve the effectiveness of Web 2.0 technologies in the classroom. The results of this study may provide justification for the use of Web 2.0 technologies in the classroom.
CHAPTER 4: RESULTS

Presentation of the results

An evaluation of research results begins with a review of the purpose of the study and hypotheses. Each hypothesis is then analyzed individually in consideration of research findings. The purpose of this mixed-method case study was to determine the effect of Web 2.0 technologies on student achievement as well as student perceptions of learning using Web 2.0 technologies. This discussion will include an evaluation of mean scores analyzed using a repeated measures 2 x 2 ANOVA, themes revealed after an interpretive analysis of interview transcripts and mean Likert scores from the classroom community survey to determine significance between said scores and themes.

Types of Data Collection

<table>
<thead>
<tr>
<th></th>
<th>Pretest/Posttest</th>
<th>Online asynchronous interviews</th>
<th>Classroom Community Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Participants</td>
<td>120*</td>
<td>141</td>
<td>141</td>
</tr>
</tbody>
</table>

*21 cases were removed as non-responders.

The Triangulation mixed methods approach was used to determine the impact of the use of Web 2.0 technologies on the student achievement of community college students and the asynchronous interviews were constructed and analyzed to identify said relationships. The chapter concludes with a summary of the aforementioned research findings.
The purpose of this research was to gather evidence documenting the effectiveness of the Web 2.0 technologies on student achievement. Data were collected from the four measurement instruments (pretest, posttest, classroom community survey, and asynchronous online interview) for the purpose of investigating the following hypotheses:

1. The use of Web 2.0 technologies will enhance student knowledge, understanding, and language abilities specific to reading, writing, speaking, listening and culture.
2. Classroom community scores will serve as predictors relative to posttest scores.
3. The use of Web 2.0 technologies will motivate students in language learning.

**Findings of the Quantitative Study**

**Analysis of Quantitative Research Hypotheses**

Data were gathered using the aforementioned measurement instruments for the purpose of testing the stated hypotheses. To investigate hypotheses 1, 2, and 3 results from the pretest, posttest, classroom community survey and asynchronous online interview \((n = 120)\) were examined using descriptive statistics, a repeated-measures 2 x 2 ANOVA where the factors were group (Web 2.0 and non-Web 2.0), level (Beginning and Intermediate), and time (pretest and posttest) and hand coding. What follows is a detailed summary of the results of this analysis where each hypothesis is addressed independently.
**Hypothesis 1**

To investigate hypothesis 1, participant scores from the pretest and posttest were examined to assess performance on knowledge, understanding, and communicative abilities in the language.

**Figure 1: Table of Means**

<table>
<thead>
<tr>
<th></th>
<th>Beginning level</th>
<th>Intermediate level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non Web 2.0</td>
<td>Web 2.0</td>
</tr>
<tr>
<td><strong>Pretest</strong></td>
<td>Mean: 17.55</td>
<td>Mean: 8.52</td>
</tr>
<tr>
<td></td>
<td>SD: 18.64</td>
<td>SD: 12.73</td>
</tr>
<tr>
<td></td>
<td>N: 39</td>
<td>N: 61</td>
</tr>
<tr>
<td><strong>Posttest</strong></td>
<td>Mean: 62.72</td>
<td>Mean: 75.59</td>
</tr>
<tr>
<td></td>
<td>SD: 19.32</td>
<td>SD: 12.03</td>
</tr>
<tr>
<td></td>
<td>N: 39</td>
<td>N: 61</td>
</tr>
</tbody>
</table>

ANOVA analysis revealed no 3-way interaction was significant. However, the 2-way interactions of time x group, $[F(1, 116) = 19.41 \ p < .001]$ were significant. There was no significant 2-way interaction between time x level.
Figure 2: ANOVA Table

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>F</th>
<th>N</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1</td>
<td>731.49</td>
<td>120</td>
<td>.000</td>
</tr>
<tr>
<td>Group</td>
<td>1</td>
<td>1.46</td>
<td>120</td>
<td>.230</td>
</tr>
<tr>
<td>Level</td>
<td>1</td>
<td>1.14</td>
<td>120</td>
<td>.288</td>
</tr>
<tr>
<td>Group * Level</td>
<td>1</td>
<td>.36</td>
<td>120</td>
<td>.550</td>
</tr>
<tr>
<td>Error</td>
<td></td>
<td></td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>1</td>
<td>554.26</td>
<td>120</td>
<td>.000*</td>
</tr>
<tr>
<td>Time*group</td>
<td>1</td>
<td>19.41</td>
<td>120</td>
<td>.000*</td>
</tr>
<tr>
<td>Time*level</td>
<td>1</td>
<td>.73</td>
<td>120</td>
<td>.393</td>
</tr>
<tr>
<td>Time<em>group</em>level</td>
<td>1</td>
<td>.13</td>
<td>120</td>
<td>.723</td>
</tr>
<tr>
<td>Error (time)</td>
<td></td>
<td></td>
<td>116</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at the p < .001 level.
Figure 3: Time (Pretest/posttest) x Group (Non web 2.0/Web 2.0)
Further, a significant main effect of time (pretest/posttest) was present, $[F (1, 116) = 554.259, p < .001]$. Post hoc analysis showed a significant difference ($p < .001$) between posttest scores for non Web 2.0 and Web 2.0 groups ($p < .001$). There was not, however, a significant ($p = .091$) difference between pretest scores for the groups. These results suggest both groups (Non-Web 2.0 and Web 2.0) were at the same background knowledge level before taking the course. Consequently, the null hypothesis stating that \textit{Web 2.0 technologies will not enhance student knowledge, understanding, and language abilities specific to reading, writing, speaking, listening and culture} is rejected. Figures 1 through 3 illustrate the group, class, and time effect associated with this change. As depicted specific to group, students (with Web 2.0 technologies) in group 2 demonstrated
the greatest sustained changes in scores (as compared to students in group 1 without Web 2.0 technologies). With respect to level, Beginning and Intermediate students in group 2 (with Web 2.0 technologies) demonstrated the greatest sustained changes in scores (as compared to Beginning and Intermediate students in group 1).

An analysis was done to determine if outliers existed in the data. Based on the following histograms, no outliers were present to skew the data.

Figure 5: Time (Pretest) x Level (Beginning)
Figure 6: Time (Pretest) x Level (Intermediate)

![Histogram for Level-2](image)

Figure 7: Time (Posttest) x Level (Beginning)

![Histogram for Level-1](image)
Hypothesis 2

To investigate hypothesis 2, participant scores from the Alfred Rovai (2002) Classroom Community Survey were examined to assess overall level of classroom community, level of connectedness and level of learning as recorded by students. The survey was administered at the completion of the course and the assumption was made that all students began these courses with a “0” for all levels.
The Classroom Community Survey (CCS) overall raw score varies from a maximum of 80 to a minimum of zero. This score is to be interpreted as the higher the CCS score the stronger the sense of classroom community. In non Web 2.0 classes M = 45 and in Web 2.0 classes M = 50. Based on these results there is a stronger sense of community in Web 2.0 classes.

The Classroom Community Survey (CCS) subscale raw scores vary from a maximum of 40 to a minimum of zero. This score is to be interpreted as the higher the CCS subscale score the stronger the sense of connectedness or learning. The mean level of connectedness was M = 18 in non Web 2.0 classes and M = 24 in Web 2.0 classes. Based on these results there is a stronger sense of connectedness in Web 2.0 classes. The level of learning in non Web 2.0 classes was M = 27 and in Web 2.0 classes was M = 27. Based on these results there is a similar level of self-reported learning in Web 2.0 classes as in non Web 2.0 classes.

Consequently, the null hypothesis stating that classroom community scores will not serve as predictors relative to posttest scores is rejected. As depicted specific to group, students with Web 2.0 technologies demonstrated the greatest level of overall community and connectedness which was predictive of better posttest scores as compared
to students without Web 2.0 technologies. While both groups (Web 2.0 and non Web 2.0) self-reported the same level of learning, this result was contrary to the actual posttest scores.

Findings of the Qualitative Study

Analysis of Qualitative Research Hypothesis

Hypothesis 3

To investigate hypothesis 3, participants were given an online asynchronous interview at the end of their course. These results were hand coded and examined to identify overarching themes amongst students about their motivation and use of Web 2.0 technologies.

Introduction to the Participants

One hundred forty-one students enrolled in the first-year or second-year Spanish beginning or intermediate online language courses at the target Midwestern community college during the summer quarter of 2008 or the fall quarter of 2008. Each student participated in an asynchronous online interview during the last week of the course. Students were selected to participate in the control group (non Web 2.0 technology course) or the experimental group (with Web 2.0 technology course) using purposeful random sampling. Table 1 provides an overview of the students’ background information (N= 141) for who participated in the online interview.
### Table 1: Students’ Background Information

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Count N%</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>42</td>
<td>29.80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>99</td>
<td>70.20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>3</td>
<td>2.10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>12</td>
<td>8.50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>13</td>
<td>9.20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International</td>
<td>1</td>
<td>.70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>110</td>
<td>78.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>1.40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>25</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beginning</td>
<td>121</td>
<td>85.80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermediate</td>
<td>20</td>
<td>14.20%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the online interviews students cited use of the following Web 2.0 technologies: iPod, MP3 player, Podcast, Wiki, Blog, YouTube, MySpace, Facebook, Google Earth, Wimba, Activeworlds and Second Life in their language learning. An interpretive analysis of interview transcripts revealed five major themes which describe how students’ used these Web 2.0 tools in their language learning. Each of the five major themes was labeled by an in vivo code (word or phrase actually used by one or more of the participants). This was done in order to preserve the student’s own words in describing particular experiences using Web 2.0 technologies. These themes are not independent of
one another but are interconnected aspects of a single overall phenomenon. The five themes, as taken from the interview transcripts, are as follows:

1. “Communication Outside of Class”: Network.
5. “Easy to Use”: Ease.

Table 2 delineates the subthemes (including negative cases analysis themes indicated in italics) which emerged within each theme:

Table 2: Themes and subthemes

<table>
<thead>
<tr>
<th>Network</th>
<th>Convenience</th>
<th>Enhancement</th>
<th>Pleasure</th>
<th>Ease</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Communicate inside/outside class</td>
<td>• Anytime access</td>
<td>• First-hand experience</td>
<td>• Daily Commodities</td>
<td>• Easy to use</td>
</tr>
<tr>
<td>• Keep in touch</td>
<td>• Accessibility</td>
<td>• Gives the subject more life</td>
<td>• Entertainment</td>
<td>• Easy to access</td>
</tr>
<tr>
<td>• Enhanced communication</td>
<td>• Familiarity</td>
<td>• Multi-functioning</td>
<td>• Not needed</td>
<td>• Difficulty of technology</td>
</tr>
<tr>
<td>• Distraction</td>
<td>• Reference tools</td>
<td>• Information overload</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Another way to access</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Accessibility</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Theme 1. “Communication Outside of Class”: Network.

Communicate inside class

Participants reported using Web 2.0 technologies as a networking tool. Repeatedly, they described various methods of communicating with others. Participants said these Web 2.0 technologies contributed to their enhanced experience of communication within the classroom.

Keep in touch

The participants describe their abilities to communicate with one another. One participant described the networking tools in the following terms: “It was easier to communicate with people.” (P18) Another participant detailed: “MySpace is the best one to use for contacting anyone, as well as Google, Wiki and even You Tube.” (P29) Study participants were positive about the presence of varied forms of networking or communication made available to them using Web 2.0 technology tools: “It (Web 2.0 tools) gives students another form of contact with the professor, outside sources, and other students not typically achieved inside the classroom.” (P28) The school setting can inhibit students from interacting with one another based on the classroom dynamic. One participant details how these pressures and communication barriers are eliminated with the use of Web 2.0 technology: “With Facebook and YouTube, students can keep in touch and communicate without feeling the pressure of school.” (P16)
Enhanced communication

Many experiences related by participants involved the enhancement of a classroom community through Web 2.0 tools. The following example from Participant 6 is illustrative of the building of the student to student relationship: “(we use it) so we can get to know our classmates and communicate. I think the class would be more effective and willing to participate and work with each other if we were familiar with each other.” Another participant explored the building of the relationship between student and instructor which can be enhanced by using the Web 2.0 technologies. According to Participant 2, “Everything would be online with the option to chat with the professor if you don’t understand anything also technologies such as extra help and the option to use websites because once you’re actually in the real world you actually have the option to use these resources.”

Distraction

The negative case analysis of networking was that it was a distraction from the work at hand. One student described their negative network experience. “YouTube was an enhancement, but if I get on the computer to work and go to MySpace (a networking site), I end up wasting time because I get distracted.” (P23) This was not a common theme but did provide a potential negative aspect to networking as it relates to the use of Web 2.0 technologies.

Communicate outside class

The words of Participant 7 aptly summarize this theme: “(It is a) great way to communicate outside class.”
Theme 2. “Provided Another Way to Access”: Convenience.

Anytime access

This theme emerged as participants described their experiences of the process of making successful connections with the language learning materials and the process which they used to do so. Many participants described the bountifulness of the Web 2.0 resources available to them. One participant described how the learning experiences travelled outside of the classroom walls: “My iPod has really helped me with Spanish 101. I can listen to it whenever I want. My car has a jack so my iPod plays through my car stereo which is nice. My iPod plays videos so I can watch the Spanish videos also.” (P6) The portability of Web 2.0 technology makes the learning experience convenient. Another participant elaborated on his or her similar experience: “I would include podcasts for sure. This lets students include this on their iPod, and bring it with them wherever they go. (many people have mp3 players on their phones now).” (P26)

Accessibility

These Web 2.0 tools are very accessible to many students. Participant 16 described the language learning process: “(It) Enhanced it. Easy to use. Very accessible. Helped a lot in Spanish to be able to hear the language any time I needed to.” (P16) With the ability for multiple access to the learning material through Web 2.0 tools students can conveniently access one another as resources. Participant 1 describes the experience in a previous language class: “(using) Google Docs. Students can collaborate on projects and study together remotely. I used Google Docs with a French group last quarter and it greatly enhanced the learning experience.” Another participant echoed the same
experience of accessibility and convenience: “I think that iPod, MP3 players and podcast help students have more access more often to their lessons.” (P10)

**Negative Case**

This accessibility may not reach everyone. One student did reflect the negative opposing view to convenience: “I would have students watch film clips in Spanish on YouTube for comprehension exercises, podcasts would also be convenient but not everyone can afford iPods so that may be unfair.” (P9)

**Familiarity**

Participants reported using the school computer lab and were familiar with the process. Most students normally worked from home but found the computer lab to be a convenient option. Students felt the Web 2.0 technology tools were convenient to access from inside the classroom and they demonstrated this with their ease of access.

**Reference tools**

The convenience theme was seen in terms of using Web 2.0 tools as reference tools to reinforce the language learning process. One participant describes their experiences using these tools: “YouTube for lectures was helpful, in case a student needs to go back to a lecture for referencing if they don’t remember what the instructor said in class.” (P11) Participant 12 illustrates the ability to record using Web 2.0 tools and then review later: “The more interaction you have access to and the more you can hear the language the more proficient you can become.” (P12)
Another way to access

The words of Participant 3 aptly summarize this theme: “(Web 2.0 tools) provided another way to access…”

Theme 3. “Gives the Subject More Life.”: Enhancement.

First-hand experience

Participants are producers in Web 2.0 technology. They have first-hand experience and exposure to the content. This code of first-hand experience was very prevalent in many of the participants’ experiences. “It (learning) was enhanced because I could hear the Spanish words being pronounced correctly.” (P12) Web 2.0 technologies offer multi-sensory approaches in learning. Participants repeatedly stated that having hands on learning activities enhanced their learning. Participants were able to hear and see content which was enhanced by Web 2.0 technologies. “I got to see what my teacher was talking about in a first person view for I saw it with my own eyes.” (P8) Participants were experiencing their learning.

Gives the Subject More Life

Web 2.0 technology tools offer a window to experience that students would not have access to without technology. “Seeing and hearing are better than just reading, it gives the subject more life.” (P3) Participants were motivated to be participants in their learning. “It (Web 2.0) has enhanced MY learning experience.” (P22) Participants were taking ownership of their own learning.
Multi-functioning

Web 2.0 technology was used as a multi-functioning resource for participants in their language learning. Participant 4 said Web 2.0 “Provided good research resources.” Another participant saw their use of Web 2.0 as it “Provided a different outlet for learning.” (P5) For each participant the web production tools offered a different use. Some participants said it enhanced their learning by providing the visual means to learning. “Online classes limit visual teaching techniques, so I think Web 2.0 technologies compensate for this shortcoming.” (P6) Web 2.0 technologies were different things to different people in their uses, but overall their reactions could be summed up as Web 2.0 “Enhances the quality of teaching and learning.” (P5)

Negative Case

The negative case which appeared in the participants’ responses was about information overload. One participant commented about Web 2.0 saying that “it only creates a platform for excess information to crowd up the internet.” (P17) For this participant the use of Web 2.0 technologies did not enhance their language learning.


They’re Already Daily Commodities

Most participants responded that they were already familiar with Web 2.0 tools. As one participant matter-of-factly put it “YouTube, Facebook, They’re already daily commodities, it is easy to create educationally-based applications.” (P24) These applications do play roles in people’s private lives but also in their professional ones.
Participants found their use of these technologies as pleasurable activities that entertained them. Learning no longer was dull and boring to them. Participant 23 announced that Web 2.0 technology is: “... entertaining, interesting, attention grabbing, and most importantly a great contact source.” (P23) When learning is entertaining it is also motivating to learn. “It (Web 2.0) makes me want to take part in the activity.” (P18) was how a participant felt about their use of Web 2.0 tools in language learning.

Another participant said: “Seeing and hearing are better than just reading, it gives the subject more life.” (P3) For many participants like this one the content came to life by using these tools. Another participant agreed that it entertained but also was a helpful resources to them. “I found many interesting resources that help me.” (P9).

Negative Case

There is always another side of the argument and this brings validity and generalizability to the findings. One participant complained that, “I don’t see the point in forcing students to use technology that not everyone has or intends to ever use outside of class.” (P2) This can be true for some students but the majority of students today will use these and many more advanced technology tools.

Theme 5. “Easy to Use.”: Ease.

Most participants felt that the Web 2.0 technologies were easy to use. One participant summarized his/her use of Web 2.0 technologies as follows: “Enhanced it.
Easy to use. Very accessible. Helped a lot in Spanish to be able to hear the language any time I needed to.” (P16) Participants said over and over again in different ways that “It is easier to communicate with people.” (P18) These technological methods of communication were easy, enhanced, pleasurable, convenient and a way to network. Every theme was somehow influenced by the code of communication.

*Easy to Access*

Participants found Web 2.0 technologies as easy to use and easy to access. Participant 6 said “…it is much easier to understand since you can hear and see at the same time.” When a student can access the audio of a language and view the language and culture at the same time this resembles an immersion like setting. Another participant felt the same way about the accessibility of the information through Web 2.0 technology tools. “They (Web 2.0) enhanced it because it was easier to watch documentaries about what we were learning at the time.” (P4) The reinforcement of the content in multiple ways is one use which participants found helpful in their learning. Yet, another participant reiterated this idea of reinforcement and accessibility. “It gave the opportunity to hear the spoken language more as well as podcasts that were previously placed on the iPod.” (P7) In summary in a participant’s own words: “It gives easier access to homework and lectures from wherever you may be.” (P16)

*Negative Case*

Not all participants felt the ease of use of these technology tools. One participant commented on the possibility of a lack of understanding on how to use the Web 2.0 tools. “Some students would have to take a class just to learn how to use the stuff. We are fine
without it (Web 2.0). Why fix something that is not broke. Leave things the way they are.” (P8) This was definitely not the overall sentiment but provides a bigger picture perspective on how participants use or may not be able to use Web 2.0 technology tools with ease. These results suggest both groups (Non-Web 2.0 and Web 2.0) had both positive and negative opinions about the use of Web 2.0 technologies and language learning after taking the course. Consequently, the null hypothesis stating that Web 2.0 technologies will not motivate students in language learning is neither accepted nor rejected as more study must be completed in this area.
CHAPTER 5: DISCUSSION

Presentation of the results

This chapter begins with a summary of the study providing an overview of the research. Findings are then discussed reviewing the statistical analysis of data. Study conclusions, based on research questions, are provided as are the limitations and implications of this research effort. Future research suggestions, based on aforementioned limitations and implications, are then presented.

Summary of the Study

Over the last several years, Web 2.0 has been the subject of various studies, including those focused on how best to utilize it in education (Rogers, Liddle, Chan, Doxey & Isom, 2007; Sims, 2006) and those concentrating on its uses in second language acquisition (Godwin-Jones, 2006; O’Hanlon, 2007; Murray, 2005). Researchers have argued that engaging students in Web 2.0 activities which involve the use and production of texts within the web is essential for developing a critically literate population in the global technology age (Leu, Kinzer, Coiro, & Cammack, 2004). With this belief, many colleges and universities have created online courses and face to face courses utilizing multiple Web 2.0 technologies. Unfortunately, published empirical research supporting the reliability and validity of these applications could not be located.

The purpose of this study was to gather evidence documenting student achievement using Web 2.0 technologies. It was hypothesized that participation in a Web 2.0 enhanced course would increase student knowledge, understanding, and
communicative abilities in the language. Further, it was hypothesized that such enhancements would positively affect classroom community scores which would serve as predictors relative to posttest scores. Lastly, it was hypothesized that the use of Web 2.0 technologies would motivate students in language learning.

Research efforts began with a literature review that provided definitions for terms and concepts associated with Web 2.0 and Web 2.0 technologies. This review also explored the relationship between Web 2.0 and the integration of these tools in the classroom. Research describing individuals’ use, purpose, and perceptions of Web 2.0 associated tools was conducted and analyzed in the literature base.

Limitations identified in the current body of knowledge included the absence of studies detailing the effect of multiple Web 2.0 technologies on student achievement indicating that the application of Web 2.0 tools in the classroom is still in the infancy stage. There were no documents located that explored the validity of the use of multiple Web 2.0 tools used to enhance student achievement in an online community college classroom. Similarly, no publications were identified that evaluated various Web 2.0 tools and their relationships with student achievement in online Spanish classrooms.

The review of literature served as impetus for research. This review was the cornerstone influencing the research design that included the integration of various Web 2.0 technologies, pretest, posttest, Classroom Community Survey (CCS) and asynchronous online interview. The methodology section provided a detailed summary of the population (N = 141) as well as the sample where participants were delineated by group (Web 2.0 and non-Web 2.0) and level (Beginning and Intermediate).
Findings

Web 2.0 vs. Non-Web 2.0 Courses

The use of Web 2.0 tools has been shown to increase student achievement (Carter, 2009; Ke, 2008; Papastergiou, 2009; Tuzun et al., 2009). The analyses conducted in this study confirmed this finding. An ANOVA analysis revealed that the 2-way interaction between time x group, $[F(1, 116) = 19.41, p < .001]$ was significant. Further, a significant main effect of time was present, $[F(1, 116) = 554.259, p < .001]$. These results are similar to the study done by Reimer and Moyer (2005) who found at the elementary level, third grade achievement scores were significantly improved by the use of online pedagogy.

In the significance section of the dissertation it was noted that the use of multiple Web 2.0 tools in language learning had not been studied in depth. The results of this study indicate that student achievement significantly improved in the Web 2.0 enhanced courses which utilized multiple technology tools. These findings are closely aligned with the various studies done concerning Web 2.0 technology in K-12 settings, in other disciplines, and in the application of single Web 2.0 tools (Ullrich et al., 2008; Janossy, 2007; Edirisingha et al., 2007; O’Bryan and Hegelheimer, 2007; Selwyn, 2008; Safran et al., 2007; Freenhow et al., 2009; McGee & Diaz, 2007; Purushotma, 2006; Cormode & Krishnamurthy, 2008; Ullrich et al., 2008; Kraemer, 2008; Dooly, 2007; Reimer and Moyer, 2005).
Student engagement and active learning

Studies have shown that active involvement in the learning process enhances learning (Benek-Rivera & Matthews, 2004; & Sarason & Banbury, 2004). This engagement by the learner in the “active” process of learning is fueled by motivation. Learner motivation is crucial in the process of language acquisition (Gardner & Lambert, 1972). Motivation is also one of the key components affecting student performance and learning, particularly in online learning (Cole, Fields & Harris, 2004; Ryan, 2001). To be able to harness this motivation is what educators seek. This study explored the role technological tools play in motivating students. The asynchronous interview was used to understand what stands out and motivates students using a given technology tool in a situation. This phenomenological research gives voice to student experiences in an exceptionally influential way (Thomas & Pollio, 2002). The descriptions shared by participants help educators and researchers understand what being a student using Web 2.0 tools is really like. Through the development of such understanding we begin to realize some of the difficulties faced by students as well as what helps students become motivated in the language learning process. After careful analyses of the interview transcripts, the fundamental nature of student experiences in using Web 2.0 technologies might read as follows:

Networking, convenience, enhancement, pleasure and ease are everyday descriptors of student experiences using Web 2.0 technology. In order to connect with students, instructors must interact with students on multiple levels, and must also provide an environment where learning can take place. Activities must be motivating and centered on engaging students. Students need to be motivated, actively engaging in learning the language and be able to use it to communicate.
This is supported by Ullrich et al. (2008) based on the micro-blogging study suggesting that instructor interaction is crucial in Web 2.0 technology enhanced courses. These technologies require educators to have a high level of involvement and actively encourage productive and collaborative learning environments (Angeli, 2008). Most participants reported positive experiences when they were using Web 2.0 technologies. Janossy (2007) investigated attitudes of university students who made use of podcasting and who took advantage of the resources. He reported they felt they understood and retained course information better. In another study by Edirisingha et al. (2007) students who utilized the technology were generally positive about the integration of the new technology. These studies confirm the positive experiences described by students.

These student experiences were coded and combined into five descriptive themes. Networking was one of the themes found in the student interviews. This theme as voiced by students is also supported in the literature (Lantolf, 2000; Murray 2005; Cummings, 2007). O’Hanlon (2007) suggests that the implementation of Web 2.0 technologies, specifically social networking, is what students are using in their personal lives and that this social setting breeds intrinsic and extrinsic motivation. Another theme describing student experiences was the convenience of using these tools. Simonson et al. (2000), Matthews, D. (1999), Harasim, L.M. (1990), and Berge, Z.L. (1997) describe online learning and Web 2.0 tools as more convenient than traditional classroom learning because of availability of materials and 24 hour access to learning. In a related study by Smart & Cappel (2004) students reported flexibility and convenience of online learning citing anytime access. Many of these tools students already use in their daily lives
O’Bryan and Hegelheimer (2007) found that podcasting allowed for an extension of class time and utilization of authentic input and opportunities for target language practice. Students self-reported listening to podcasts multiple times based on the accessibility of materials. Enhancement was a theme which emerged from the asynchronous online interviews, and was supported in research. Web 2.0 technologies can facilitate learning by engaging learners in real tasks and using authentic materials (Duffy & Cunningham, 1996; Honebein, 1996). Another common theme described by students while using Web 2.0 technologies in language learning was that the experience was “pleasureful” or “fun”. Kubey & Csikszentmihalyi (2004) describe this “pleasure” as a “flow-like” experience which “accompanies the increased mastery of most any human endeavor” (p.53). This theory is also supported in another study done by Smart & Cappel (2006) which found that students rated online learning as significantly higher in terms of being a more effective and fun way to learn. The last theme that students used to describe their experiences was ease of use. In the same study done by Smart & Cappel (2004), ease of use was one the themes students found to describe their online experiences using Web 2.0 tools.

Some students also reported negative experiences that might have hindered or could hinder language learning. O’Bryan and Hegelheimer (2007) in their podcasting study identified the limited access by some students to technologies such as Mp3 players. There was a similar finding in the negative case analysis of the interviews. Interviewees reported potential lack of technology access. Students also described Web 2.0
technologies as being a distraction. Learners found themselves working online and visiting websites for diversion and not educational purposes. Distractions while learning decrease motivation and therefore less attention in working memory is devoted to the task at hand (Brooks & Shell, 2007). Crook & Harrison (2008) surveyed students from 27 schools about their experiences using these technologies. Several cited Web 2.0 tools as a distraction often a temporary one, to their learning. Information overload was reported as another negative effect of Web 2.0 technologies in learning. Anderson (2007) agrees that students may incur information overload due to the multitude of ways to access information and the anxiety this could cause. Negative case analyses determined that some students felt these new technologies were not necessary and they did not help. Chumley-Jones (2002) reported in their reviews on web-based learning that using the web 2.0 technologies improved post test scores, but it was not significant. Additional studies by Shimazu (2005) and Harter and Harter (2004) support this and indicated that there was no significant difference in the online groups versus those groups who did not work online. Student scores were compared within and between each group and no significance was reported. The last negative descriptor used to describe Web 2.0 technologies in the student interviews was the difficulty using technology. Vaidhyanathan (2008) describes this problem as the generational myth that all young people are tech savvy. He reports that within every class of students there is a variance of comfort, skill and ability with technology.

Students need to feel motivated to learn the language. While a few negative cases cited Web 2.0 tools as being distracting, the predominant feeling expressed was that Web
2.0 tools are motivating in language learning. These results are similar to the findings by Stanley (2006) that motivation is an affective consideration of Web 2.0 tools, specifically with podcasting. Wang (2003) reported that there has been little research done on learner satisfaction and e-learning in general. There has also been little research on the use of multiple Web 2.0 tools and language learning specifically from the student perspective. All five themes found in this study help to develop an understanding of Web 2.0 tools as they relate to student use and how it relates to student achievement.

**Building Community**

According to Lightbrown and Spada (1999) students learn best “when [they] are given the opportunity to engage in meaningful activities [and] are compelled to negotiate for meaning, that is, to express and clarify their intentions, thoughts, opinion, etc., in a way which permits them to arrive at a mutual understanding. This is especially true when the learners are working together to accomplish a particular goal” (p.22). According to the Classroom Community Survey (CCS) developed by Rovai (2002), the Web 2.0 enhanced courses showed a higher level of overall classroom community and a higher level of connectedness among students and instructor. This concurs with the statement by Palloff and Pratt (2005) that “collaboration in a constructivist classroom results not only in personal meaning-making on the part of the individual student, but also creates a container wherein social construction of knowledge and meaning can occur” (p.6). This connectedness was evidenced in the Web 2.0 enhanced courses. This connection between students and instructor provides the “Architecture of Participation” upon which
the Web 2.0 definition is based. Therefore without the community component within Web 2.0 technologies, these technologies would not exist since they are dependent on a network of interpersonal ties (Rheingold, 1994; Wellman, 2002). The CCS showed the same level of self-reported learning. This contradicts the study’s initial findings of the 2-way interaction between pretest and posttest x Web 2.0 course and non-web 2.0 course, [F (1, 116) = 19.410 p <.001] and the significant main effect [F (1, 116) = 554.259 p < .001]. O’Malley (1999) found similar results to those self-reported by students in the Classroom Community Survey. He reported that students do not believe that they learn more in online courses as compared to traditional face-to-face courses. Richardson and Swan (2003) found that student self-reported learning was correlated with the social presence (community). This contradicts the findings by the Classroom Community Survey which showed a higher level of social presence (community) and yet the same level of self-reported learning. However, the Richardson and Swan study confirms the quantitative findings of the increased posttest score and the increase level of community (social presence).

**Conclusions**

Hypotheses were analyzed using a repeated-measures 2 x 2 ANOVA where the factors were group (Web 2.0 and non-Web 2.0), level (Beginning and Intermediate), and time (pretest and posttest). Post-hoc comparisons were made to determine the significance between said scores. Results suggested participation in the Web 2.0 course did significantly enhance student knowledge, understanding, and communicative abilities.
in the language. Both beginning and intermediate courses showed significant increases in achievement. These findings are relevant in consideration of studies suggesting that the implementation of specific Web 2.0 technologies enhances student learning and collaboration (Selwyn, 2008; Safran et al., 2007; Freenhow et al., 2009; McGee & Diaz, 2007; Purushotma, 2006; Cormode & Krishnamurthy, 2008; Ullrich et al., 2008; Kraemer, 2008; Dooly, 2007). Study findings via the Classroom Community Survey also indicated participation in the Web 2.0 technology enhanced courses significantly helped build a classroom community and connectedness amongst students. These results are significant and correspond to the sociocognitive literature that states more learning occurs in social interactions versus alone (Harasim, L.M., 1990; Slavin, R., 1983; Sharan, S., 1980; Hackman, M.Z. & Walker, K.B., 1990).

Further results from the Classroom Community Survey showed the self-reported level of learning remained the same in both Web 2.0 classes and non-Web 2.0 classes. These results are interesting in view of findings that there was a significant difference in posttest scores. Problems with self-reporting and self-evaluation have been studied. Learners vary in their ability to gauge their learning progress and like to be able to have a high level of control over their learning (Milheim & Martin, 1991). Learner control over learning should be married with tools for the self-monitoring of progress (Williams, 1996). In Web 2.0 enhanced classes, self-monitoring of progress is important as often the learning tools are not seen as “tools” to the student using them but rather as a means of diversion. This misperception of learning can attribute to the incorrect self-evaluation of actual learning. There are multiple facets to consider when gauging student perceptions.
Prior technology knowledge and skill, socioeconomic factors, student needs, personality and communicative behaviors all play a crucial role in how a student perceives his or her educational experience.

**Limitations**

Considerations of research limitations involve generalizability, sampling techniques, and sampling biases. Generalizability is considered specific to uses within the Midwestern community college as well as external uses. Limitations involving generalizability within the community college focus on the representativeness of a sample that is less than 1% of the community college’s credit enrollments. As the result of an experiment design that utilized a purposive sample, sampling error—or the likelihood that the sample was not representative of the community college student population—may be a variable with respect to demographic and academic factors. The online Spanish course design was based on demographic and institutional factors associated with the community college. This customization was undertaken in consideration of research suggesting the importance of the integration of Web 2.0 technologies while taking into account the community college demographic and possible limited technology access and/or experiences (Selwyn, 2008; Safran et al., 2007; Freenhow et al., 2009; McGee & Diaz, 2007; Purushotma, 2006; Cormode & Krishnamurthy, 2008; Ullrich et al., 2008; Kraemer, 2008; Dooly, 2007). Although such adaptations may be relevant to the socio-cultural context, said customizations may make generalizability external to the community college difficult. Limitations involving
external application focus on the validity of drawing inferences from this data and attempting to apply said reasoning to other environments or situations. That is, results of this study are not intended to suggest that if another academic institution were to employ the same course without modification, similar results could be expected. Consequently, generalizations should be made while taking into consideration the demographic and institutional factors.

Selection was considered a possible threat to both internal and external validity. The experimental design utilized a purposive sampling technique in which participants were selected based on their class and instructor. According to Patton (2002) criterion sampling was used since it can be an “ongoing program monitoring system” and it works with “quality assurance efforts” which is the goal of this study (p. 238). Findings specific to previous knowledge suggest there was no significant difference, \( p = .968 \) between pretest scores and non Web 2.0 and Web 2.0 scores. This lack of significant difference suggests no difference in background knowledge; however a pretest with no connection to one’s academic record can result in a lack of time and effort in taking the pretest. The results of this study must take this potential “pretest effect” factor into account and results may not be applicable to all students. These factors should be considered when attempts are made to generalize research findings to the community college general student population.
Implications

Students’ educational needs are ever-changing based on their future roles in the world. One such recent change has been to make education more accessible through distance learning methods. One area which is beginning to benefit from the increased technology access is foreign language classes. To encourage student achievement, colleges and universities are creating courses both online and face-to-face which contain multiple Web 2.0 technologies. At this time, limited empirical research supporting the reliability or validity of these applications could be located. Those in academics concerned with issues relating to Web 2.0 technologies are left to wonder how these courses were designed and administered. How is data collected, maintained, and used? Are these courses designed as new pedagogical approaches or are these new tools being used to supplement current pedagogy? Whom do they serve?

This research effort represents the first study providing insights into the phenomenon of Web 2.0 technologies as they relate to student achievement. As such, it presents two major implications. First, these findings suggest participation in a Web 2.0 technology enhanced course may significantly enhance student knowledge, understanding and communicative abilities in a language. Participation might enhance classroom community and connectedness within the classroom. Further, it may not be likely to change a student’s attitude with respect to their self-reported level of learning. Research findings also suggest not all students have positive experiences using Web 2.0 technologies.
In consideration of research results, an inference is that the students who show the greatest increases in knowledge, understanding and communication of the language are the students who receive the most benefit from said courses. The broader implication is that institutions may be moving toward creating more online courses for students when research suggests that not all will be successful in them based on technology access, experience in using technology and actual use of technologies. Although these findings should be reviewed in consideration of study limitations, this research implies Web 2.0 technology enhanced courses when designed as a way to network, are convenient, enhance the content, provide pleasure and are easy to use may benefit students. Because empirical evidence does not exist yet to support the reliability and validity of such courses, academicians can only speculate as to their value. How much will students gain from this learning experience? How will learning occur? How long will this learning last? What institutional resources should be directed to these efforts? What is the cost/benefit analysis?

Future Research

Based on the existing body of knowledge as well as these findings, potential research efforts could include studies designed to measure the effectiveness of specific Web 2.0 tools, specific combinations of Web 2.0 tools and their applications. Further, because this study was limited to an online learning environment, future research efforts could include a similar design based in an on-campus learning environment. To determine the long-term value of Web 2.0 technology enhanced courses and to address
issues associated with criterion and predictive validity, future studies might include a longitudinal component, analyzing the relationship between student achievement in Web 2.0 technology enhanced courses and non-Web 2.0 enhanced courses. After having looked at the first hand experiences of online Spanish students, it is also necessary to study the first hand experiences of students in a face-to-face Spanish classroom as well as use other classes in other disciplines in order to identify the student for whom these technologies are most beneficial. The nature of these results may lead to different recommendations than those found in this study. Student experiences could also provide insights into the support necessary for those who struggle using Web 2.0 technologies. In addition, we need to study the experiences of both K-12 teachers and college and university instructors in regard to their use of Web 2.0 technologies. Continued research on the level of facilitation by instructors in these courses should also be considered.

Further improvements to this study could include content experts being consulted to improve course and assessment content thus enhancing content validity. To diminish threats to external validity and to enhance the potential for generalizability, future studies might involve coordinated research efforts with numerous educational institutions exhibiting similar demographic and institutional characteristics. To enhance internal validity, other researchers might consider revisions in methodology addressing issues of evaluation apprehension, selection bias, and sample size. Future studies may focus on history concerns by isolating differences associated within classes (e.g., faculty, curriculum, and other intervening events) and establishing experimental controls identifying the impact of these events.
Summary

The research reported in this dissertation evaluated the level of effectiveness of the Web 2.0 technologies on student achievement in an online Spanish class. Through the creation and facilitation of these Web 2.0 technology enhanced courses, students were provided a chance to embrace these new technologies in the classroom. This dissertation provides the first published effort reviewing the Web 2.0 used to create such a course and details the measurement tools employed to substantiate the effectiveness of such intervention.

This course was created based on an extensive literature review that served to shape the methodology including the creation and utilization of existing assessment instruments (pretest, posttest, Classroom Community Survey and asynchronous online interview) and selection of data analysis tools including the use of descriptive and interpretive statistics: repeated-measures 2 x 2 ANOVA and pairwise comparisons. Results from pretest and posttest suggest participation in the Web 2.0 enhanced courses did significantly enhance student knowledge, understanding and communicative abilities in the language. Research also revealed a statistically significant relationship between Web 2.0 enhanced courses and the level of classroom community and connectedness self-reported by students. However, students in both Web 2.0 and non-Web 2.0 enhanced courses self-reported no difference in learning which was in contrast to the repeated-measure 2 x 2 ANOVA results. Research findings based on student interviews also suggest not all students have positive experiences using Web 2.0 technologies. This chapter summarized the study and provided an overview of the research. Findings were
discussed, and statistical analysis was reviewed. Study conclusions, based on research questions, were provided as were the limitations and implications of this research effort. Lastly, future research suggestions, based on aforementioned limitations and implications, were then presented. It is the hope of this author that the information contained in this document and any resultant research inspired by these efforts will benefit students and teachers.
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APPENDIX A: MODEL OF INTERACTION

Asynchronous online interview

Web 2.0 technologies

1. Web 2.0 technology survey

Please complete the following survey. All results are anonymous.

Web 2.0 technologies use tools and features that place the learner/user in the role of producer of knowledge rather than only in the role of consumer of knowledge. Some examples of Web 2.0 include: discussion boards, audio recordings, iPods, MP3 players, Podcasts, Wikis, Blogs, YouTube, MySpace, Facebook, Google Earth, Activeworlds, Second Life and chat

1. What are your experiences with learner initiated web production as community college students in Spanish classes?

What are your experiences with learner initiated web production for your community college in Spanish classes?

2. Which Web 2.0 technology tools (wikis, blogs, audio recordings, etc.) do you use in your language learning?

What Web 2.0 technology tools (wikis, blogs, audio recordings, etc.) do you use in your language learning?

3. In what ways do you use Web 2.0 technology tools (wikis, blogs, MySpace, audio recordings, journals, etc.) in learning another language?
How do you use Web 2.0 technology tools (wikis, blogs, MySpace, audio recordings, journals, etc.) in your language learning?

4. How do you feel about using Web 2.0 technology tools (wikis, blogs, audio recordings, discussions, etc.) in your language learning?

How do you feel about using Web 2.0 technology tools (wikis, blogs, audio recordings, discussions, etc.) in your language learning?

5. What role/s do you see learner initiated web production tools (discussions, audio recordings, blogs, etc.) playing in your language learning?

What role/s do you see learner initiated web production tools (discussions, audio recordings, blogs, etc.) to play in your language learning?
Classroom Community Survey

DIRECTIONS: Below you will see a series of statements concerning a specific course or program you are presently taking or recently completed. Read each statement carefully and place and select the appropriate response to the statement that comes closest to indicating how you feel about the course or program. There are no correct or incorrect responses. If you neither agree nor disagree with a statement or are uncertain, select the neutral (N) area. Do not spend too much time on any one statement, but give the response that seems to describe how you feel.

Please respond to all items
1. I feel that students in this course care about each other.............................(SA) (A) (N) (D) (SD)
2. I feel that I am encouraged to ask questions..............................................(SA) (A) (N) (D) (SD)
3. I feel connected to others in this course.....................................................(SA) (A) (N) (D) (SD)
4. I feel that it is hard to get help when I have a question.............................(SA) (A) (N) (D) (SD)
5. I do not feel a spirit of community.............................................................(SA) (A) (N) (D) (SD)
6. I feel that I receive timely feedback...........................................................(SA) (A) (N) (D) (SD)
7. I feel that this course is like a family...........................................................(SA) (A) (N) (D) (SD)
8. I feel uneasy exposing gaps in my understanding........................................(SA) (A) (N) (D) (SD)
9. I feel isolated in this course........................................................................(SA) (A) (N) (D) (SD)
10. I feel reluctant to speak openly................................................................(SA) (A) (N) (D) (SD)
11. I trust others in this course.........................................................................(SA) (A) (N) (D) (SD)
12. I feel that this course results in only modest learning..............................(SA) (A) (N) (D) (SD)
13. I feel that I can rely on others in this course...............................................(SA) (A) (N) (D) (SD)
14. I feel that other students do not help me learn.........................................(SA) (A) (N) (D) (SD)
15. I feel that members of this course depend on me.....................................(SA) (A) (N) (D) (SD)
16. I feel that I am given ample opportunities to learn.................................(SA) (A) (N) (D) (SD)
17. I feel uncertain about others in this course...............................................(SA) (A) (N) (D) (SD)
18. I feel that my educational needs are not being met...................................(SA) (A) (N) (D) (SD)
19. I feel confident that others will support me..............................................(SA) (A) (N) (D) (SD)
20. I feel that this course does not promote a desire to learn...........................(SA) (A) (N) (D) (SD)
APPENDIX D: IRB APPROVAL FROM COMMUNITY COLLEGE

IRB Approval from community college

For Human Subjects Research Review Committee Use Only

☐ Contact information is needed
☐ Add a statement that the participant is at least 18 years of age (Under age 18 requires parental permission).
☐ Add a statement that participation is voluntary and that participation and the data provided can be withdrawn at any time.
☐ Statements regarding video/audio tapes must be included: where tapes will be kept, for how long, how (or if) they will be destroyed, who will have access, etc.
☐ Provide a copy of the Consent Form.
☐ Provide a statement from the school, institution, facility etc., granting permission to conduct research if needed.
☐ Provide a copy of the survey cover letter.
☐ Provide a copy of the consent form.
☐ Provide a copy of the debriefing statement(s).
☐ Provide a copy of the confidentiality statement.

Additional Comments:

Initial HSRC Recommendation
☐ Not approved  Reason:
☐ Pending  Reason:
☐ Approved

Date:

Final HSRC Recommendation
☐ Not approved  Reason:
☐ Pending  Reason:
☐ Approved

Date:

Signature of Chairperson or Designee:

Approval expires one year from the date approved above. If significant changes are made to this protocol, prior approval from the HSRC must be obtained. If you disagree with the final HSRC recommendation, you may appeal the decision.
APPENDIX E: INFORMED CONSENT FORM

Informed consent form

UNL Letterhead

Mixed Methods Investigation on Student Achievement Using Web 2.0 Technologies

Statement of Informed Consent

IRB # 2008099341 EX

Purpose of the Research
We are interested in studying the effect on student achievement by using Web 2.0 technologies.

Procedures
When users take the two online surveys they are encouraged to answer honestly and in detail. The users will also take a pre test and a posttest. The pretest will not count toward the final grade for the course. These activities will be required classroom activities. Participation in these activities will require no extra time beyond what is required for the class. The participants class grades will not be affected by their decision to participate or not. If a user does not want their responses used in the research he/she should select ‘I disagree’ on the consent form.

Risks and/or Discomforts
There are no known risks to users from using this Web site. It is a part of the online course. There are no known risks involved in participating in the research.

Participant Requirements
Participants must be 19 years of age or older. By selecting “agree” to this consent you are acknowledging that you are 19 years of age or older.

Benefits
Users will be exposed to the latest technologies and be producers of their own learning.

Alternatives
These surveys and pre and posttest are also available in print form.

Confidentiality
The privacy of the participants in the research will be maintained throughout the study.
There is no identifiable information disclosed as a result of submitting the survey. We cannot guarantee the confidentiality of this information because it is gathered using the WWW and Web-access to the database by surreptitious means unknown to us may be possible now or may become possible in the future.

All data will be stored by the lead researcher for the academic term 2008-2009. The information obtained in this study may be published in scientific journals or presented at scientific meetings but the data will be reported as aggregated data.

Compensation
There is no compensation for participating in this research.

Opportunity to Ask Questions
Persons interested in discussing the research can contact the senior researcher, Dallas Malhiwsky dmalhiwsky@mccneb.edu or by phone at (402) 537-3812 or the Faculty advisor Dr. Aleidine Moeller at amoeller2@unl.edu or by phone at (402) 472-2024. Sometimes study participants have questions or concerns about their rights. In that case, you should call the University of Nebraska-Lincoln Institutional Review Board at (402) 472-6965.

Freedom to Withdraw
You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigators, Metropolitan Community College, or the University of Nebraska-Lincoln. Your decision will not result in any loss of benefits to which you are otherwise entitled.

Consent, Right to Receive a Copy
You are voluntarily making decision whether or not to participate in this research study. Selecting 'agree' certifies that you have decided to participate having read and understood the information presented. If you would like a copy please contact the course instructor or either of the researchers for a copy of the form for your records.

Investigators
Dallas Malhiwsky, dmalhiwsky@mccneb.edu (402) 537-3812

Dr. Aleidine J. Moeller, amoeller2@unl.edu (402) 472-2024
APPENDIX F: BEGINNING SPANISH PRETEST & POSTTEST

Beginning Spanish pretest & posttest

SPAN _____ Nombre

Total /143= _______%

A. Dos amigas. (Listening: El ocio)
Listen to the description of the things Margarita and Soledad like to do in their free time. Then decide whether each statement is Cierto or Falso.

_________ 1. Margarita tiene mucho tiempo libre. _____
   a. cierto
   b. falso

_________ 2. Los lunes, Margarita y Soledad van a un partido de fútbol. _____
   a. cierto
   b. falso

_________ 3. Conversan en un café los martes. _____
   a. cierto
   b. falso

_________ 4. Los miércoles, Soledad va a un museo o al centro. _____
   a. cierto
   b. falso

_________ 5. Los sábados, Margarita tiene que trabajar. _____
   a. cierto
   b. falso

_________ 6. Los domingos, las chicas van al cine. _____
   a. cierto
   b. falso

B. La división de trabajo entre amigas. (Listening: Los quehaceres domésticos)
Listen to how a group of friends divides up household chores, and decide whether each statement is Cierto or Falso.

_________ 7. Berta barre el piso. _____
   a. Cierto
   b. Falso

_________ 8. Evelia y Alicia limpian los baños. _____
   a. Cierto
   b. Falso

_________ 9. Berta saca la basura. _____
   a. Cierto
   b. Falso

_________ 10. Alicia lava la ropa de las tres chicas. _____
   a. Cierto
   b. Falso

_________ 11. Berta pone su dormitorio en orden cada semana.
12. Alicia prepara la cena todos los días.
a. Cierto
b. Falso

13. Cuando Alicia cocina, Evelia quita la mesa.
a. Cierto
b. Falso

14. Este plato se llama pastel de choclo. ___
a. Cierto
b. Falso

15. “Choclo” es otro nombre por zanahorias. ___
a. Cierto
b. Falso

16. Para preparar este plato necesita carne y pollo. ___
a. Cierto
b. Falso

17. Hay huevos en este plato. ___
a. Cierto
b. Falso

18. El puré de choclo está debajo de la carne y el pollo. ___
a. Cierto
b. Falso

19. El pastel está en el horno por 45 minutos. ___
a. Cierto
b. Falso

20. El padre de mi madre es mi __________________________.

21. La madre de tu hermanastro es tu __________________________.

22. Yo soy el/la __________________________ de mi abuela

23. El hijo de mi tía es mi __________________________.

24. Mi suegra es la madre de mi __________________________, Juan

25. Los hijos de tu hermana son tus __________________________.

26. Los hijos de tus padres son tus __________________________.

27. La hermana de mi esposo es mi __________________________.

28. La hermana de tu padre es tu __________________________.

29. Tú eres el __________________________ de tus padres.
E. Preguntas personales. (Grammar; The present tense of stem-changing verbs; Instructor graded)
Answer the following questions in complete sentences in Spanish.

**MODELO:** ¿Qué pides en un café?
*Pido una pizza en un café.*

30. ¿A qué hora empieza tu clase de español?
___________________________________________________________________________________

31. ¿Cuánto cuesta una entrada al cine en tu ciudad?
___________________________________________________________________________________

32. ¿Cuántos idiomas entiendes?
___________________________________________________________________________________

33. ¿Qué prefieren ver tu mejor amigo/a y tú, películas de horror o películas románticas?
___________________________________________________________________________________

34. ¿Cuántas horas duermes por la noche?
___________________________________________________________________________________

35. ¿Qué quieren hacer tus amigos este fin de semana?
___________________________________________________________________________________

F. Sustituir. (Grammar; Direct objects, the personal a, and direct object pronouns)
Rewrite each of the following sentences, substituting a direct object pronoun for the direct object.

**MODELO:** Necesitamos los cuadernos.
*Los necesitamos.*

36. Marta va a llamar a su tía. ______________________________

37. Siempre pierdo los bolígrafos. _____________________________

38. ¿Quieres visitar a tus amigas? ____________________________

39. Prefieres hacer tu trabajo en la biblioteca, ¿verdad? __________________________

40. Tenemos la clase de francés a las seis de la tarde. _____________________________

G. Combinar elementos. (Grammar; Demonstrative adjectives and pronouns)
Use the words provided to create a logical sentence in Spanish. Be sure to pay attention to gender/number agreement.

**MODELO:** Yo / querer / este / silla
*Yo quiero esta silla.*

41. Juan y Raúl / mirar / aquél / carros. ______________________________

42. Tú / tener / ese / película / que / yo / querer

43. Nosotros / visitar / ese / museo de arte moderno ______________________________

44. Yo / ir a / comprar / este / cuadernos
45. **Quién / ser / aquél / persona**

H. **Escoger y conjugar. (Grammar; Saber and conocer)**

Complete the sentences with the correct form of either saber or conocer. Make any necessary changes to the verb form.

**MODELO:** Ellos _____________ que Guatemala está en América Central.

Ellos saben que Guatemala está en América Central.

46. Noemí _____________________________ bien Honduras, Guatemala y El Salvador.

47. Roberto y tú ____________________________ hablar alemán.

48. Nosotros ___________________________ cuándo empieza la película.

49. Margarita y Esteban ____________________________ a muchos profesores de la Facultad de

50. ¿ ________________ tú bailar salsa?

51. Yo ________________________________ a Javier Barros.

52. ¿ ________________ alguien la fecha del cumpleaños de Ana?

53. Yo no _____________________________ a qué hora viene

I. **Conjugar verbos reflexivos. (Grammar; Reflexive constructions: pronouns and verbs)**

Complete the sentences with a logical reflexive verb. Be sure to use the appropriate form of the verb and corresponding reflexive pronoun.

**MODELO:** Roberto ___________________________ a las nueve de la mañana.

Roberto se despierta a las nueve de la mañana.

54. Juan ___________________________ a las diez de la noche.

55. Yo ________________________________ el pelo con champú.

56. Tú ________________________________ el pelo con el secador.

57. Ellos ________________________________ muy elegante para ir a la fiesta.

58. Nosotros ________________________________ los dientes.

59. Voy a ________________________________ con una navaja de afeitar.

60. Diego ________________________________ la ropa antes de ducharse.

61. Alicia ________________________________ las manos con jabón.

J. **¿Dónde vivir? (Grammar; Comparisons of equality and inequality)**

Read the descriptions of three houses for rent in Costa Rica. Then, based on the information provided, write the words that best complete each comparative sentence.

**Las Villas**

Superficie: 300 metros cuadrados

5 cuartos / 4 baños / jacuzzi / terraza / piscina / jardines privados / cocina nueva

Acceso directo a la playa

Completamente amueblada - camas, sofá, sillones, lámparas, mesa y sillas

Precio: 310.000 colones al mes
Los Condominios Buena Vista
Superficie: 150 metros cuadrados
2 cuartos / 2 baños / terraza / garaje
Acceso directo a la playa
Completamente amueblada-camas, sofá, sillones, lámparas, mesa y sillas
Precio: 230.000 colones al mes

Los Apartamentos Petunia
Superficie: 100 metros cuadrados
2 cuartos / 2 baños / sala grande / cocina medio-amueblada
Precio: 230.000 colones al mes

62. La casa en Las Villas es ________________ grande ________________ un apartamento Petunia.
63. Los Condominios Buena Vista tienen ________________ baños ________________ los Apartamentos Petunia.
64. Un apartamento Petunia cuesta ________________ ________________ 200.000 colones al mes.
65. En la casa en Las Villas hay ________________ cuartos ________________ en un condominio Buena Vista.
66. Los Apartamentos Petunia cuestan ________________ ________________ los Condominios Buena Vista.

K. (Grammar; The superlative; Instructor-graded)
Write six different superlative statements based on the pictures. Be sure not to copy the model.

MODELO: Cristina es la más baja de todas.
Formar el tiempo progresivo. (Grammar; The present progressive)
Complete the following sentences by conjugating a verb from the word bank in the present progressive. Be sure to use each word only once.

MODELO: Antonio y Marta
________________________________  el periódico.

Antonio y Marta están leyendo el periódico.

73. __________________________ limonada.
74. Carlito y Francisco ___________ el partido de fútbol en la televisión.
75. Yo __________________________ la radio.
76. Tú __________________________ en tu cuaderno.
77. Sara __________________________ una hamburguesa.
78. Ellos __________________________ el pelo.
79. Yo __________________________ la cama porque mis padres vienen de visita.
80. __________________________ al fútbol.

Dar y decir. (Grammar; decir and dar, indirect objects, and indirect object pronouns)
Complete the following sentences with the correct form of either dar or decir.

MODELO: Yo ____________ un paseo por el parque.
Yo doy un paseo por el parque.

81. Mis amigos ____________ que hay una fiesta en casa de Pilar este fin de semana.
82. Paulo y Felipe me ____________ un abrazo cuando me siento triste.
83. Jorge ____________ que tenemos que salir a las diez en punto.
84. Nosotros les ____________ regalos a los niños para la Navidad.
85. Amanda y yo siempre ____________ la verdad.
86. Nosotros tenemos otra opinión; ¿qué ____________ Julia?
87. Yo te ____________ la receta secreta para mis galletas famosas.
88. Tu padre te ____________ cuando está enojado (angry), ¿no?

N. Pronombres. (Grammar; decir and dar, indirect objects, and indirect object pronouns)
Choose the answer that best completes each sentence.

MODELO: ______ sirvo la cena a mis padres.
a. Le  b. Les  c. Me  d. Nos

89. Yo ________ repito las instrucciones a los niños.
a. me  b. le  c. te  d. les

90. Tú ________ pagas la cuenta a mí.
 a. me
b. te
c. les
d. le

91. A nosotros _______ gusta leer libros de horror.
a. me
b. nos
c. les
d. te

92. _______ invito a Marisa a salir con frecuencia.
a. Nos
b. Les
c. Me
d. Le

93. Quiero contar_________ a ti lo que pasó anoche.
a. te
b. me
c. les
d. Nos

94. ¿Podemos decir_________ a Juan el secreto?
a. me
b. le
 c. les
d. te

95. Las clases de química siempre _________ aburren a ti.
a. les
b. te
c. le
d. me

96. _______ faltan las palabras para explicar lo que pienso.
a. Le
b. Me
c. Les
d. Nos

O. Gustar y otros verbos similares. (Grammar; Gustar and similar verbs)
Complete the following sentences with the correct indirect object pronoun and the correct form of the verb in parentheses.

MODELO: A mí ________________________ (fascinar) estudiar la filosofía.
A mí me fascina estudiar la filosofía.

97. No ________________________ (molestar) a Paco sacar la basura.
98. ¿A ti _______________________ (parece) interesante este libro?
100. ¿A ti ________________________ (gustar) comer huevos?
101. A Paulina ______________________ (faltar) las palabras para escribir el poema.
102. A mí ________________________ (encantar) las películas francesas.
103. ¿Cuánto vino ______________________ (quedar) a nosotros para la fiesta?
104. A ellos ______________________ (aburrir) la literatura y las humanidades.

P. Los verbos en pretérito. (Grammar; The preterit of regular verbs)
Complete the following sentences with the preterit form of the verb in parentheses.

MODELO: Anoche en el café, Luis ______________________ (tocar) la guitarra.
Anoche en el café, Luis tocó la guitarra.

105. Mis padres ______________________ (llamar) por teléfono anoche.
106. A mí me ______________________ (gustar) el libro mucho.
107. Antes de mezclar la masa (dough) para las galletas, Ana ______________________ (echar) un poco de azúcar.
108. Nosotros ______________________ (bailar) en la discoteca anoche.
109. La semana pasada, Mateo y Daniela ______________________ (comer) en la cafetería.
110. Este fin de semana pasado, yo ______________________ (gastar) $50 en el centro comercial.
111. Los niños ______________________ (jugar) al fútbol ayer por la tarde.
112. ¿ __________ (pagar) tú la cuenta?

Q. Más preguntas. __________________ (Grammar; Verbs with irregular forms in the preterit (I); Instructor graded)
Answer the following questions in complete sentences in Spanish.

MODELO: ¿Oíste las noticias anoche?
No, no oí las noticias anoche.

113. ¿Qué pediste la última vez que saliste a un restaurante?

114. ¿Qué les serviste a tus invitados en tu última fiesta?

115. ¿Cuál es el último libro que leíste?

116. ¿Cuántas horas durmieron tus amigos y tú después de su última fiesta?

117. ¿Qué ingredientes echaste la última vez que preparaste un plato?

R. Isla de Pascua. (Reading; Comprehensive)
Read the following passage, and decide whether each statement is Cierto or Falso.

La Isla de Pascua, o Rapa Nui, es una isla del océano pacífico que forma parte del territorio de Chile. Es la única parte del territorio de Chile que está en una zona temporal distinta—hay una diferencia de dos horas entre la isla y el resto del país. La isla tiene una superficie de 163,6 km² y una población de menos de 3.800 habitantes. En la isla misma los habitantes se llaman rapanui, pero en español se llaman pascuenses. Hay dos lenguas oficiales de la isla, español y rapanui. La población de esta isla varía mucho con las
estaciones del turismo. Es un lugar exótico y misterioso para muchos turistas a quienes les encantan los Moais, las grandes estatuas de piedra (stone).

118. La isla de Pascua está en el Caribe. _____
a. cierto
b. falso

119. La isla es parte del territorio de Chile. _____
a. cierto
b. falso

120. Rapa Nui es la capital de la isla. _____
a. cierto
b. falso

121. Los habitantes de la isla se llaman pascuenses. _____
a. cierto
b. falso

122. Hay una sola lengua oficial de la isla. _____
a. cierto
b. falso

123. Los Moais son los turistas que visitan a la isla. _____
a. cierto
b. falso
Writing:
S. Una comida que preparaste. (Writing: Comprehensive; Instructor graded) 10 points /10
Write a paragraph (5-8 sentences) describing a meal you have prepared in the past. Be as detailed as possible, and include the following information:
—when and why you prepared the meal
—for whom you prepared the meal
—at least two different dishes
—the steps necessary to prepare both dishes
—the appliances and utensils you used
Oral Exam:

T. Mis hábitos. (Speaking; Comprehensive; Instructor graded) 5 points /5
Describe orally in Spanish your eating habits. Be as detailed as possible, and include the following information:
—what times of day you normally eat
—with whom you normally eat
—the foods you like and dislike / what foods you normally eat at each meal
—how often you eat in restaurants and what types of restaurants you normally visit

U. Hablo de mi rutina diaria. (Speaking; Comprehensive; Instructor-graded) 5 points /5
Give an oral description of your morning routine in Spanish. Be as detailed as possible, and be sure to include the following information:
—the time you wake up
—the time you get up
—the things you do to get ready in the morning
—any other activities you normally do in the morning (exercise, run, study, clean, etc.)
—the time when you leave the house in the morning
APPENDIX G: INTERMEDIATE SPANISH PRETEST & POSTTEST

Intermediate Spanish pretest & posttest

1. Decida la palabra o frase que no corresponda en cada grupo.
   a. adelgazar
   b. perder peso
   c. evitar

   Answer: _____

2. Decida la palabra o frase que no corresponda en cada grupo.
   a. libra
   b. pie
   c. pulgada

   Answer: _____

3. Decida la palabra o frase que no corresponda en cada grupo.
   a. chuleta
   b. regla
   c. albóndiga

   Answer: _____

4. Decida la palabra o frase que no corresponda en cada grupo.
   a. hacer ejercicio
   b. levantar pesas
   c. descansar

   Answer: _____

5. Decida la palabra o frase que no corresponda en cada grupo.
   a. aji
   b. apio
   c. pimiento verde

   Answer: _____
6. Decida la palabra o frase que no corresponda en cada grupo.
   a. repollo
   b. col
   c. remolacha

   Answer: _____

7. Decida la palabra o frase que no corresponda en cada grupo.
   a. engordar
   b. ganar peso
   c. disminuir

   Answer: _____

8. Decida la palabra o frase que no corresponda en cada grupo.
   a. bromas
   b. velas
   c. flores

   Answer: _____

9. Decida la palabra o frase que no corresponda en cada grupo.
   a. cercano
   b. libre
   c. por aquí

   Answer: _____

10. Decida la palabra o frase que no corresponda en cada grupo.
    a. herradura
    b. mal de ojo
    c. pata de conejo

    Answer: _____

11. Decida la palabra o frase que no corresponda en cada grupo.
    a. diablo
b. amuleto
c. demonio

Answer: _____

12. Decida la palabra o frase que no corresponda en cada grupo.

a. baloncesto
b. deporte
c. montaña

Answer: _____

13. Decida la palabra o frase que no corresponda en cada grupo.

a. caña de pescar
b. jugadores
c. equipo

Answer: _____

14. Decida la palabra o frase que no corresponda en cada grupo.

a. marcar
b. nadar
c. bucear

Answer: _____

15. Decida la palabra o frase que no corresponda en cada grupo.

a. ganar
b. vencer
c. quedarse

Answer: _____

16. Decida la palabra o frase que no corresponda en cada grupo.

a. entrenador
b. carrera
c. árbitro

Answer: _____
17. Decida la palabra o frase que no corresponda en cada grupo.

   a. hipódromo
   b. natación
   c. carrera de caballos

Answer: _____

18. Decida la palabra o frase que no corresponda en cada grupo.

   a. realizar
   b. no asistir
   c. faltar

Answer: _____

19. Decida la palabra o frase que no corresponda en cada grupo.

   a. salón de clase
   b. horario
   c. aula

Answer: _____

20. Decida la palabra o frase que no corresponda en cada grupo.

   a. promedio
   b. notas
   c. consejero

Answer: _____

21. Decida la palabra o frase que no corresponda en cada grupo.

   a. título
   b. reunión
   c. junta

Answer: _____

22. Decida la palabra o frase que no corresponda en cada grupo.

   a. enfermero
   b. médico
   c. contador público
23. Decida la palabra o frase que no corresponda en cada grupo.
   a. llegar tarde
   b. matricularse
   c. ingresar
   Answer: _____

24. Decida la palabra o frase que no corresponda en cada grupo.
   a. dentista
   b. solicitud
   c. odontología
   Answer: _____

25. Decida la palabra o frase que no corresponda en cada grupo.
   a. tío
   b. pariente
   c. vida
   Answer: _____

26. Decida la palabra o frase que no corresponda en cada grupo.
   a. malcriar
   b. tomar
   c. mimar
   Answer: _____

27. Decida la palabra o frase que no corresponda en cada grupo.
   a. alegre
   b. contenta
   c. nostálgica
   Answer: _____

28. Decida la palabra o frase que no corresponda en cada grupo.
a. quizás
b. a menudo
c. tal vez

Answer: _____

29. Decida la palabra o frase que no corresponda en cada grupo.

a. enojada
b. enfadada
c. triste

Answer: _____

30. Decida la palabra o frase que no corresponda en cada grupo.

a. mandona
b. perezosa
c. haragana

Answer: _____

31. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis.
Ella visita _______________ y yo visito _______________. (her parents / mine)

a. a sus padres/a los míos  
b. a su padres/a los mios  
c. a sus padres/al mío  
d. a su padres/ al mío

Answer: _____

32. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis.
________________ que ella necesita más tiempo _______________ el trabajo. (Dr. Paz says /in order to finish)

a. El doctor Paz dece/para terminar  
b. El doctor Paz dice/para terminar  
c. El doctor Paz dijo/ terminar  
d. El doctor Paz habla/termine

Answer: _____
33. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis. Yo necesito ________________ secretaria. Puedo pagar ________________ dólares por semana. (another / a thousand)

   a. otro/millón
   b. otro/mil
   c. otra/mil
   d. otra/millón

Answer: _____

34. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis. ________________ Nueva York, pero tenemos que estar de vuelta en San Francisco ________________ el dos de agosto. (We love / by)

   a. Nos encanta/por
   b. Nos encantan/para
   c. Nos encanta/para
   d. Nos encantan/por

Answer: _____

35. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis. Srta. Soto: ____________ los documentos y ________________ al Sr. Vega. ________________ a la secretaria. (Bring / give them / Don’t give them)

   a. Traiga/ déselos/No se los dé
   b. Traiga/ déselo/ No los dé
   c. Trae/ déselos/ No se los dé
   d. Traiga/ délos/ No dé

Answer: _____

36. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis. La fiesta ________________ en el club. ________________ con Jorge, porque él ________________ listo todavía. (is / Let’s not go / isn't)

   a. es/ No vamos/ no está
   b. es/ No vayamos/ no está
37. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis.
Yo no soy ___________________________ Daniela. Ella es ___________________________.

a. tan alta como/la más alta de
b. tan alta /la más alta de
a. tan alta como/más alta de
d. muy alto como/más alta de

Answer: _____

38. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis.
Este hotel es ___________________________ el otro. (much better than)

a. mucho mehor de
b. mucho mejor que
c. muy mejor que
d. mucho mejor de

Answer: _____

39. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis.
La señora ___________________________ hijos tuvieron el accidente, salió ___________ el hospital ___________. (whose / for / ten minutes ago)

a. cuyas/por/hace diez minutos
b. cuyos/por/diez minutos
c. cuyos/para/diez minutos
d. cuyos/para/hace diez minutos

Answer: _____

40. Complete lo siguiente, usando el equivalente español de las palabras que aparecen entre paréntesis.
¿Tú ___________________________ que ella ___________________________? ¡_________________________! (say / plans to visit us / I know)

Answer: _____
41. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
-¿Cuántos años ________________ (tener) tú cuando ustedes ________________ (mudarse) a California?

a. tenías/se mudaron
b. tenías/se mudaban
c. tuviste/se mudaban
d. tuviste/se mudaron

Answer: _____

42. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
-Quince. Yo no ____________________________ (querer) mudarme, pero mis padres me ____________________________ (convencer).

a. quería/convencían
b. quiso/convencían
c. quería/convencieron
d. quiso/convencieron

Answer: _____

43. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
Nosotros __________________________ (venir) en el año 1998.

a. venimos
b. veníamos
c. vienemos
d. vinimos

Answer: _____

44. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según
corresponda.
-¿Cómo __________________________ (ser) tu primer novio?

  a. sea
  b. era
  c. fue
  d. fui

Answer: _____

45. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
-Inteligente y guapo. Los dos __________________________ (estudiar) juntos todos los días.

  a. estudiábamos
  b. estudiamos
  c. estudiábamos
  d. estudiamos

Answer: _____

46. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
-¿Por qué no ____________________________ (casarse) (ustedes)?

  a. casaron
  b. casaban
  c. se casaban
  d. se casaron

Answer: _____

47. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
-¿Porque él ____________________________ (irse) a vivir a Europa.

  a. se fue
  b. se iba
  c. iba
  d. fue

Answer: _____
48. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
- ¿Qué te ____________________________ (decir) tus padres anoche?
  a. decía
  b. decían
  c. dijeron
  d. dijiste

Answer: _____

49. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
- Que ellos ____________________________ (necesitar) unas vacaciones.
  a. necesitan
  b. necesitían
  c. necesitaron
  d. necesitaban

Answer: _____

50. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
- ¿Tú __________________ (saber) que ellos _______________ (pensar) ir de viaje?
  a. sabías/pensaron
  b. sabías/pensaban
  c. supiste/pensaron
  d. supiste/pensaban

Answer: _____

51. Complete los siguientes minidiálogos, usando el pretérito o el imperfecto de los verbos que aparecen entre paréntesis, según corresponda.
- No... Lo ____________________________ (saber) anoche.
  a. sabia
  b. sabía
  c. saba
  d. supe
52. Conteste las siguientes preguntas, usando pronombres de complemento directo.
¿A quién le pedía usted dinero cuando era niño(a)?

a. le lo pedía a mi mamá
b. se la pedía a mi mamá
c. se lo pedía a mi mamá

Answer: ____

53. Conteste las siguientes preguntas, usando pronombres de complemento directo.
¿Su padre le compra las cosas que usted necesita?

a. se las compró
b. me las compra
b. le las compra

Answer: ____

54. Conteste las siguientes preguntas, usando pronombres de complemento directo.
¿Usted puede prestarme su pluma? (Use la forma tú en su respuesta)

a. puedo prestártela
b. puedo prestartela
c. puedo prestartelo

Answer: ____

55. Conteste las siguientes preguntas, usando pronombres de complemento directo.
¿Sus profesores les dan a ustedes los exámenes los domingos?

a. No les los dan
b. No se los dan
c. No nos los dan

Answer: ____

56. Conteste las siguientes preguntas, usando pronombres de complemento directo.
¿Usted piensa regalarle su libro favorito a su mejor amigo(a)?
57. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Yo voy a llamar a mi hermano en cuanto ________________.

a. llega a mi casa
b. llegue a mi casa
c. llege a mi casa

Answer: _____

58. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Nosotros siempre esperamos al profesor hasta que ________________.

a. no podemos esperar más
b. no podamos esperar más
c. no puedamos esperar más

Answer: _____

59. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Para perder peso, es mejor ________________.

a. coma menos
b. comer menos
c. come menos

Answer: _____

60. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Mis padres quieren que yo ________________.
a. hago mi tarea
c. haga mi tarea

Answer: _____

61. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Nosotros esperamos _______________________.

a. llegar temprano
b. llegue temprano
c. llega temprano

Answer: _____

62. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Yo puedo ayudarte, con tal de que tú _______________________.

a. me ayudas
b. me ayudes
c. ayudesme

Answer: _____

63. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Es una lástima que nosotros _______________________.

a. no tengamos clase
b. no tener clase
c. no tenemos clase

Answer: _____

64. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Yo no creo que los muchachos _______________________.

a. se despiertan temprano
b. despertarse temprano
c. se despierten temprano

Answer: _____

65. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Dudo que mis compañeros de clase _________________.
   
a. escribe mal.
b. escribir mal
c. escriba mal

Answer: _____

66. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Es verdad que yo _________________.
   
a. salga hoy
b. salgo hoy
c. salge hoy

Answer: _____

67. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Yo temo no _________________.
   
a. escuchar bien
b. escuche bien
c. escucha bien

Answer: _____

68. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Yo les sugiero que _________________.
   
a. van al museo
b. vayan al museo
c. ir al museo
69. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Siempre me quito los zapatos cuando _________________.

   a. entra la casa
   b. entro la casa
   c. entrar la casa

Answer: _____

70. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Nosotros deseamos _________________.

   a. perder peso
   b. perdamos peso
   c. perdemos peso

Answer: _____

71. Termine las siguientes oraciones. Utilice el presente de subjuntivo, el presente de indicativo o el infinitivo, según corresponda.
Yo trabajo para que mis hijos _________________.

   a. tener más
   b. tienen más
   c. tengan más

Answer: _____
APPENDIX H: IRB PROPOSAL

Exploring the Impact of Web 2.0 Technologies on Spanish Language Students in a Community College

The subject of this Institutional Review Board (IRB) proposal, which is being submitted as "Exempt Status", is a mixed methods study that will look at the effect and use of Web 2.0 technologies on language learning.

Describe the significance of the project:

This study will look at three factors that affect student achievement: active learning, student engagement and building a community in the online classroom. These three factors are enhanced by using Web 2.0 technologies. This enhancement will be measured through the use of the CCS (Classroom Community Scale) created by Dr. Alfred Rovai (2002) and pre and posttest to measure student achievement through active learning and student engagement. The asynchronous online interview will use the same group of students to gather their use of Web 2.0 technologies in language learning.

The mixed methods approach seems very applicable to this type of data because it offers the generalizability of the quantitative piece while personalizing and adding voice with the qualitative piece. According to Creswell and Plano-Clark (2007), "By mixing the datasets, the researcher provides a better understanding of the problem than if either datasets had been used alone." (p.7) In an online classroom so many times students’ voices are never heard because they are not given opportunity or they are able to avoid opportunity. Student achievement is based on the students so to not have both hard numbers to generalize with and their voice to personalize I believe it does a injustice to the population being studied.

Understanding the experiences of students after an using Web 2.0 technology tools in their language learning answer questions about how to design curriculum to enhance and promote language learning. The study may help educators understand what experiences are internalized by students through using Web 2.0 technology. The study will help to answer the question of what effect do these technology tools have on the ultimate outcome, student achievement in language. If this study positively impacts student achievement, similar curricula modifications might be considered.

The study will be of interest and benefit to language educators and students specifically, but all educators and students can benefit by exploring the impact of Web 2.0 technology on student achievement in learning. College education faculty can benefit by examining the use and impact learner initiated web production on learning.

Describe methods and procedures:
The participants within the first days of class will be asked to complete the pretest. This is part of the course. The informed consent will be the first question on the pretest. Within the last week of the course the students will be asked to complete the posttest and the two surveys (one about classroom community & the other about Web 2.0 technologies). The posttest and both surveys will also have the first question as the informed consent. Students will select agree if the wish to have their results used in this research. The pre and posttest and both survey attachments do not currently include the informed consent as the first question due the inability to print from the course management system, Angel, and its security feature. On the pre and posttest and both surveys the first question is exactly what is on the informed consent form and the student selects 'I agree' or 'I disagree'. The pretest and posttest will take 30 minutes each and be a part of the course. The online interview and classroom community survey will each take 20 minutes and be an optional part of the course. The course instructor will be provided with email reminders to all students regardless of their participation in the study. These reminders will be sent via email by the course instructor as part of the course protocol for all assigned work. There will be no direct contact by the investigators. This will assist in ensuring confidentiality of all participants.

Class Records & Interview responses

Researchers will not have any identifiable information about their participants. The course instructor will not forward any names or identifiable information about the participants. The course instructor will not forward any results of participants who do not agree to the consent form to participate. The data will be encrypted on the college server and any printouts will be stored in a locked file cabinet. Everything will be destroyed after data analysis completion.

Justification for exempt status:

There is no foreseeable danger to participants in this research. All of the participants are adults over the age of 19. Names of each participant will be masked to protect identity and each participant will be assigned a number for identification. No reference to college attended or locations of the study will be mentioned. Data that may offer a clue to students' identity will be omitted. Participants will not be videotaped or audio taped. Participation in this study will be voluntary.

Describe participants:

Participants will be the students enrolled in the beginning & intermediate Spanish online courses. Students are accessed via a professor at the institution involved in the research. This professor was chosen because she is technology proficient. She was provided with a consent form which invited her to participate in the research.
Describe benefits and risks:

Participants will be exposed to the latest technologies. The research will improve the success of Spanish online class course creation which will in turn improve student success in these classes. There are no known risks.

Describe recruiting procedures:

Participants will be told via email about the study from the course instructor. She will collect the pretests and only forward the scores of those students who selected "agree" for the first question which was the informed consent. She will not forward any identifiable information to the researchers. At the end of the course she will forward the results of the posttest, and both the online interview and classroom community survey only those of which the participants marked agree on the first question. Once again no identifiable information will be associated with these results.

Describe compensation:

No compensation will be offered to the participants.

Copy of informed consent:

A copy of the informed consent form is attached.

Obtaining informed consent:

A copy of the informed consent will be the first question on both the online interview and classroom community survey.

Maintaining confidentiality:

Pseudonyms and numbers will be used for each participant to protect anonymity.
APPENDIX I: DIAGRAM OF RESEARCH

QUAL data collection
(Asynchronous online interview)

QUAN data collection
(Pretest/Posttest)
(CCSurvey)

QUAL data analysis
(Hand-code)

QUAN data analysis
(SPSS)

QUAL results

QUAN results

Compare & Contrast

Interpretation QUAN + QUAL
APPENDIX J: CONTENT VALIDITY (BEGINNING PRE/POSTTESTS)

March 27, 2009

Dear Members of the Dissertation Committee of Dallas Malhiwsky:

Please consider this letter as an evaluation of the Final Exam prepared by Ms. Dallas Malhiwsky for first semester Spanish. After reviewing this exam, I can say that it is level-appropriate, aligns well with the course objectives, and has face validity.

At the end of the first-semester of language instruction at the community college-level, depending on their previous language learning experiences, students should typically be at the novice-mid to novice-high level according to the ACTFL proficiency guidelines. The test Ms. Malhiwsky has created is appropriate for this level of students as they must listen for specific information in short listening texts, respond in writing to simple questions about familiar topics, write a short description on a familiar topic, orally describe themselves, and read brief texts for specific information. These tasks represent the types of tasks that students at the novice-mid to novice-high level should be able to complete.

In addition to being level-appropriate, this exam aligns well with the course objectives of this first semester Spanish class as they include both grammar and communication objectives. Ms. Malhiwsky includes both discrete point grammatical items and more communicative tasks in her exam that reflect these two types of objectives. It is my understanding that the objective related to culture is not intended to be measured via this final exam, rather formative assessments incorporated in the class focus on this learning objective. Therefore, this exam addresses the remaining language and grammar objectives identified in the course description.

Finally, due to its tight alignment with the course objectives and the variety of tasks in which the learners engage, this test appears to have face validity. It measures
both the language abilities of the students in listening, reading, speaking, and writing as well as tests for their ability to appropriately conjugate verbs in various tenses.

Due to all three of these criteria, it is my opinion that Ms. Malhiwaky's final exam is an adequate measure of language competency for the context in which it will be administered.

If you have any questions about this assessment, please do not hesitate to contact me.

Sincerely,

Melanie Bloom, Ph.D.

Assistant Professor
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APPENDIX K: CONTENT VALIDITY (INTERMEDIATE PRE/POSTTESTS)

Dear Members of the Dissertation Committee of Dallas Malhiwsky:

Please consider this letter as an evaluation of the pre-/post-test prepared by Ms. Dallas Malhiwsky for a third semester Spanish class at the community college level. After reviewing this test, I can say that it is level-appropriate, aligns fairly well with the course objectives, and has face validity.

At the end of the third-semester of language instruction at the community college level, depending on their previous language learning experiences, students should typically be at the intermediate-low to intermediate-mid level according to the ACTFL proficiency guidelines. The test Ms. Malhiwsky has created is appropriate for this level of students as they must listen to short listening texts for comprehension, respond in writing to simple questions about familiar topics, write short compositions topics related to personal experiences, read short texts for specific information, and participate in predictable conversations related to their personal experiences and/or the target culture. These tasks represent the types of tasks that students at the intermediate-low to intermediate-mid level should be able to complete.

In addition to being level-appropriate, this test aligns fairly well with the grammar and communicative objectives of this third semester Spanish class. This pre-/post-test includes both discrete point grammatical items and more communicative tasks that reflect these two types of learning objectives. Similar to the first semester exam I evaluated, this test is not intended to assess the culture learning objectives. Therefore, this test addresses the remaining language and grammar objectives identified in the course description as well as adds a section devoted to vocabulary.
Due to its close alignment to the course objectives and the variety of tasks in which the learners engage, this test appears to have face validity. It measures both the language abilities of the students in listening, reading, speaking, and writing as well as tests for their ability to appropriately conjugate verbs in various tenses, aspects, and moods.

Due to all three of these criteria, it is my opinion that Ms. Malhiwsky’s pre-/post-test is an adequate measure of language competency for the context in which it will be administered.

If you have any questions about this assessment, please do not hesitate to contact me.

Sincerely,

Melanie Bloom, Ph.D.

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