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The Effects of Virtual Immersion on Second Language Acquisition

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### Abstract

Technology has become second nature to today's students. Because of this comfort, adding technology to the classroom has become more and more popular in schools everywhere. Technology not only excites students, but also holds their focus and keeps them on task. For teachers, technology opens up a whole new window to more activities, games, and lessons for all subjects. Technology can also make information and learning possible for students who do not have access to certain subjects. Unfortunately, foreign language programs are growing smaller in schools across the country due to a lack of resources. Technology is a great solution to this problem. Technology can also elevate a student's language learning experience. This mixed methods research sought to see if adding technology, specifically virtual immersion, to a Spanish class would help with the student's vocabulary acquisition. Likert scale surveys and interviews were also implemented to gauge the students' opinions on the virtual immersion process.

*Keywords: virtual immersion, second language, vocabulary acquisition, Edmodo.com*

In today's interconnected world, learning a second language has become even more imperative on the road to personal success. This growing importance of language skills can be seen in the slow trickle down of language programs from college and high schools to middle and elementary schools (Rhodes & Pufahl, 2011). Research shows that introducing a child to a second language early in life results in higher levels of proficiency and pronunciation (Kassau, Adams, & Algozzine, 2015). While introducing children to a second language in their early elementary years is an excellent idea in theory, it is not always possible. According to a national survey funded by the United States Department of Education, in 2008 only 25% of elementary and 58% of middle schools across the country offer foreign language programs (Rhodes & Pufahl, 2011). Unfortunately, most public schools do not have the resources, especially funding, to implement foreign language programs.

Immersion schools can be an excellent option for parents who have the desire, means, and opportunity to give their child foreign language instruction when their local public school does not offer such a program. In immersion schools, students are taught certain subjects in English and others in a second language. This way the students are immersed in a foreign language for half of their school day. Immersion schools provide an excellent opportunity to learn a second language, however not everyone has the opportunity to attend one (Xu, Padilla, & Silva, 2015). Thanks to advances in technology, learning a second language can now be as easy as turning on a computer.

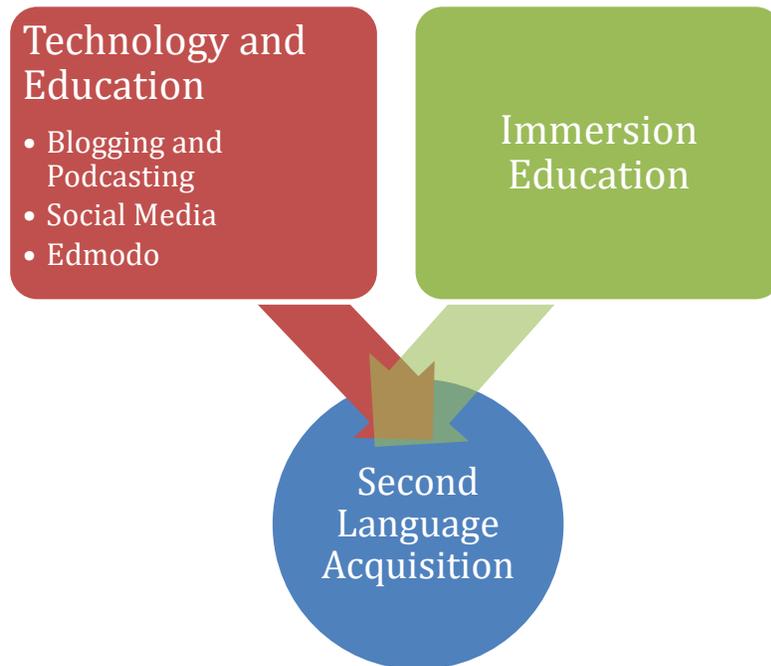
There are many computer programs, compact disks, and apps that can aid in second language acquisition. Two of the most popular are Rosetta Stone and Duolingo. While some are expensive, they offer quicker ways to learn a new language. These programs are great for people on the go or who can only spend a few hours a week learning a new language. The idea behind

these programs is short intense segments of language learning where the only focus is the language. While many use these programs in their homes or on the go, could this idea of immersion with technology be brought into the classroom?

Technology is nothing new to the classroom as an aid in learning and research has shown its positive effects for students (Lan, 2013; Yuldashev et al., 2012). However, there is a lack of research where the positive effects of immersion are combined with those of technology. Technology has been shown to aid in second language acquisition, but again there is a gap in research with relation to immersion (Abdous et al., 2009; Armstrong & Retterer, 2008; Montero-Fleta & Pérez-Sabater, 2010). This gap has lead to the question, “What effect, if any, does virtual immersion, in the form of [www.edmodo.com](http://www.edmodo.com), have on vocabulary acquisition when learning a second language?”

For the purpose of this research, virtual immersion is defined as complete second language immersion when using technology, meaning when students are using technology, all words and activities are in the second language. This research will use Edmodo, a collaborative classroom website, as its virtual immersion. When students are using Edmodo during instruction, the language of the website will be changed from English to Spanish. Over the period of a month, a class of Spanish II students received all vocabulary instruction through Edmodo. At the end of the month, their acquisition progress was examined. In order to see if virtual immersion played a role in their acquisition, their progress was compared to a control class whose vocabulary instruction was through traditional means. The purpose of this research is to see if virtual immersion will have a positive effect on second language vocabulary acquisition and if it can be used as a means of second language immersion.

### Conceptual Framework



*Graphic 1.* Conceptual Framework. This figure illustrates the thought process that formed the hypothesis of this paper.

The graphic (see Graphic 1) is the Conceptual Framework for the following literature review and research. The graphic shows the two separate aids in the second language education field, technology and immersion, combining to help the second language acquisition process. This framework illustrates my hypothesis that when technology and immersion education take place at the same time, the combination will have a positive effect on vocabulary acquisition in a second language.

### **Literature Review**

In this literature review, the process of second language acquisition through many channels is reviewed and examined for gaps. As shown above, there have been years of research conducted on the topic of learning a foreign language in different classroom settings. However, research on technology and second language acquisition is sparse, especially in the field of virtual immersion, complete second language immersion when using technology. This means when students are using technology in the classroom, all sites are in the second language. In this study the educational site Edmodo.com will be used. Edmodo is a collaborative classroom site that allows for students to interact with each other and teachers to post assignments and start discussions. Throughout this literature review, connections will be made between second language acquisition, immersion programs, and technology with a focus on vocabulary acquisition, while gaps in research are identified.

The articles for this literature review were found using two main methods. The first was Google Scholar and the second was the University of Mary Washington Library Databases. The databases used were Education Full Text, Education Research Complete, and Teacher Reference Center. The terms used when searching for articles were “second language acquisition”, “vocabulary acquisition”, “technology and education”, “virtual immersion”, “L2 acquisition”, and “L2 vocabulary”. Combinations of these terms were used as well. All articles were scholarly or peer reviewed articles.

### **Second Language Acquisition**

There are many facets that can be researched in the field of second language acquisition. For the purpose of this literature review, the articles reviewed focus on problems that can occur during second language acquisition. Bardovi-Harlig (2009) examines second language learners’

low usage of conventional expressions, which are common phrases used by native speakers in certain situations. The study concludes that recognition of conventional expressions must be present in order to be used by second language learners; however, this is not the only reason why students do not use these common expressions. Examples of conventional expressions are “Be quiet” and “No problem.” While the student might recognize these expressions, they may not fully understand the meaning or the context in which the expression is used. Second language learners may also rely on and overuse familiar expressions that they are comfortable using instead of expanding their vocabulary (Bardovi-Harlig, 2009). This study’s specific and focused emphasis on the low usage of conventional expressions lacked generalizability. The fact that non-native speakers do not commonly use conventional expressions does not mean they do not have a solid grasp on the language. The study is stating that there are benefits of using them and it is an important stage during language acquisition.

Research conducted by Yuldashev, Fernandez, and Thorne (2013) also looks into second language learners’ use of expressions. However, the researcher’s focus is in multi-word units. These units are sentence structures that have fixed parts, as well as spaces for customization. This mixed methods study examined blog and instant message posts from Advanced Placement Spanish students for multi-word units, in this case *es/que* or *is/that*. Yuldashev et al.’s (2013) study concluded that advanced usage of multi-word units could be used as a prediction of “more expert-like language use over time” (p. 42). The importance of this article is in the insight it provides to language acquisition over time and in tracking student progress through these posts. By examining student work, teachers can see where they need to focus their instruction. However, a limitation of this study is that the subjects were Advanced Placement Spanish

students, who already have an advanced understanding of the language. More research would have to be done to see if a similar trend is seen in all levels of Spanish learners.

Acquisition of expressions is an important factor in learning a second language. The usage of such expressions shows a higher level of language understanding. However, in order to get there, vocabulary acquisition must occur first.

**Vocabulary acquisition.** Vocabulary acquisition is the building block of learning a language. However, the process of vocabulary acquisition can be problematic for second language learners. Most research in this field examines different processes of language acquisition. In quantitative research done by de la Fuente (2006), the author examines different vocabulary instruction and its effects on vocabulary retrieval. Through her research with undergraduate Spanish students, the author concluded that while different instruction methods do not affect short-term recall of vocabulary, there were, however, significant differences in delayed recall after each type of instruction (de la Fuente, 2006, p. 279). This article concluded that task-based, or engaging, lessons are more effective in the vocabulary acquisition process than Presentation, Practice, and Production (PPP) lessons (de la Fuente, 2006, p. 286). PPP lessons begin with a teacher presentation of information, then follow with a chance for the students to practice, and conclude with the students displaying what they just learned (de la Fuente, 2006, p. 268). Two of the main limitations were that the study only had 39 participants and all the participants were not involved in the same task to test acquisition (de la Fuente, 2006, p. 271). The following study by Lan also examined vocabulary acquisition, but all participants were given the same task with different variables changed. This was done to see which method might work best for students.

Lan (2012) introduces technology as a tool in vocabulary acquisition. The author used “Mywordtool”, as a vehicle to conduct her research. This tool uses “currently available vocabulary learning strategies (VLSs) as well as e-tools,” (Lan, 2012, p. 1) such as images, videos, and audio, to help learners acquire vocabulary in a second language. A major element of this quasi-experimental study is the aspect of sharing. The researchers wanted to not only know if “Mywordtools” helped students, but if co-sharing within “Mywordtools” was an added aid to acquisition. The author concluded that her hypothesis was supported in that the participants who used “Mywordtools” with co-sharing performed the best in word learning achievement and those who were given traditional instruction achieved the lowest results (Lan, 2012, p. 8). While this was a quasi-experimental study, meaning the participants were not randomly selected, it still provides a strong foundation for future research. The research that was conducted based off of this literature review implemented the idea that sharing with technology helps second language vocabulary acquisition. However, not all vocabulary is learned through intentional instruction.

Vocabulary recall was also examined in Alemi and Tayebi (2011). The authors specifically studied incidental and intentional vocabulary acquisition. Instruction of vocabulary acquisition has varied over the years, from nonexistent to over focused (Alemi & Tayebi, 2011, p. 81). The authors conducted their research to see if incidental vocabulary acquisition can be just as helpful as intentional acquisition. Their results show that intentionally learning new vocabulary leads to better recall of the new words. However, there are some limitations to this study, in that it is hard to prove incidental learning and that the focus group was small and made-up of mostly college-aged men. Future research could study different age groups over a period of time to see if students remember incidentally learned vocabulary later on in their language-learning career. While the results of this study conclude that incidental learning is not as

effective as intentional learning, incidental learning is a large component of immersion education. The hope of immersion programs is that students will have a better understanding of a second language if the language constantly surrounds them. In terms of immersion education, this incidental learning is key to language acquisition.

### **Immersion Education**

Immersion education is not a new concept in the education field, however more research is needed. Xu, Padilla, and Silva's (2015) study examined learner performance in immersion programs with students in high school language programs. The purpose of their cross-sectional quantitative study was to compare the results of end of the year tests, the Mandarin Standards-Based Measurement of Proficiency assessment, between the elementary immersion program students and high school Level 4 and 5 AP Chinese students. The authors' results "indicated that immersion students slightly outperformed the comparison high school group in reading but lagged slightly behind in writing and speaking skills" (Xu et al., 2015, p. 26). One limitation of this study is its cross-sectional nature. Age difference might be a factor in the research results. As mentioned in the article, more research is needed. The Xu et al. (2015) study was included in this literature review for the aspect of comparing of elementary and high school programs.

Snow, Padilla, and Campbell's (1998) study looks into what happens to students after they have completed their immersion programs. Their participants had completed seven years, kindergarten through 6<sup>th</sup> sixth grade, in a Spanish immersion program. The focus of this study was the retention and attitudes of the students in relation to Spanish. The results of their study showed language attrition after leaving their immersion program, even in students who continued taking Spanish classes. The results also showed that a student's attitudinal disposition influenced

their writing and speaking retention (Snow et al., 1998). While the authors discovered interesting findings from their research, the study is dated and used a limited nonrandom sample group.

Both Snow et al. (1998) and Xu et al. (2015) compare immersion programs at the elementary age with secondary-aged language learners and showed that students in the immersion programs performed better in testing. These results show an important dilemma in the language field: retention. With many immersion programs ending after elementary school, future research is needed to find way to help language retention in secondary-aged students.

### **Technology and Education**

Technology has had a major impact on the education field. Research is constantly being done to study this impact and to determine whether it is a positive or negative one. Lan's (2013) article, which was mentioned earlier in the Vocabulary Acquisition section, found that technology and its co-sharing abilities had a positive effect on vocabulary acquisition for English language learners. Yuldashev et al.'s (2012) article, which was also mentioned earlier in the Second Language Acquisition section, used text from blogs and instant messaging text from Advanced Placement Spanish students to study their second language development. These articles show that technology is important for students in second language acquisition.

**Blogging and Podcasting.** Blogging and podcasting have become popular technological implementation in classrooms, especially in foreign language classrooms. These mediums allow for students to show what they know and receive exposure to native speakers. Abdous, Camarena, and Facer (2009) examined multiple uses of podcasts in their study. The participants were 113 undergraduates from eight different language classes whose professors had agreed to the use of podcasts during the semester. This study, which researched Mobile Assisted Language Learning (MALL) technologies, found that the use of podcasts during instruction lead to an

improvement in the students' language skills. The researchers believe, based off of their findings, that MALL technology is positively changing the way foreign languages are taught and should be implemented more (Abdous et al., 2009, p. 88-89). However, the researchers do point out that additional research is needed in the specific uses of podcasts (Abdous et al., 2009, p. 90). While more research is needed on podcasts, especially with younger participants, there has been considerable research on the effect of blogging on second language acquisition.

In a mixed-methods study done by Montero-Fleta and Pérez-Sabater (2010), research was conducted on the effect of blogging on language skills. The blogs of 19 undergraduate native Spanish-speaking students majoring in English were studied for improvement of writing fluency and form correctness. Pre- and post-tests were conducted and scores were compared to 19 students receiving traditional classroom, with no technology, language instruction (Montero-Fleta & Pérez-Sabater, 2010, p. 774). Overall, the students who used blogging had a higher post-test mean score than the non-bloggers, meaning blogging had a positive effect on language skills (Montero-Fleta & Pérez-Sabater, 2010, p. 776). However, it is hard to determine if these findings were a result of the blogging or from more exposure to Spanish overall.

Armstrong and Retterer's (2008) case study examine blogs as a means for students to become immersed in a foreign language. The researchers found that all participants felt more comfortable writing in Spanish and that they felt more comfortable in their ability to manipulate verb forms in Spanish (Armstrong & Retterer, 2008, p. 243-246). While the study by Armstrong and Retterer was a case study, which influences the generalizability of the study, and Montero-Fleta and Pérez-Sabater's study only had 38 participants, both studies provide a great platform for further research into technology and second language immersion, especially in the social media field.

**Social Media.** Today's students are more familiar with technology than the majority of their teachers, especially in Web 2.0 and social media. Web 2.0 is the terminology used when describing the second generation of the Internet that led to collaboration of users and the rise of social media. Technology associated with social media has only recently become popular in schools. However, with students' literacy in technology, research has been conducted to see if technology literacy can aid in second language literacy. In a mixed methods study, Vasbø, Silseth, and Erstad (2014) look at the use of a social networking site Space2cre8. The researchers found that the use of social networking sites is an excellent resource for a variety of students and can create a space where every day and school knowledge can merge (Vasbø et al., 2014, p. 123). This was an ethnographic study that provides a detailed review of only two participants of the study. Meaning these two participants are supposed to represent the whole study when there could have been more variation in results. If different participants had been chosen, the conclusion of the study may have been different. However, future and more extensive research with other websites and types of social media can be conducted based off of their study.

With social media slowly becoming popular as a learning tool, classroom sites designed like online social media networking sites are now being created. Edmodo is one of these sites. Edmodo can be compared to Facebook in nature, however its focus is on education and Internet safety. Teachers can create sites for their classrooms where assignments can be given and work can be shared. In a study by Holland and Muilenburg (2011), Edmodo was used as a medium to study student collaboration. Holland and Muilenburg's (2011) goal was to "improve the quality and depth of student discussion of literature" in their English classroom (p. 4). The authors did see a positive result in their findings of more insightful questions and meaningful responses from the students because of their familiarity with the site's layout. However, it should be noted that

this study was not published in a journal, but presented at a Society for Information Technology & Teacher Education International Conference. When reviewing literature on social media and education, Edmodo and other educational social media sites presented the largest gap in research. This study by Holland and Muilenburg (2011) was chosen to introduce Edmodo, not as a basis for future research.

### **Gaps in Research**

Through this research, connections have been made between second language acquisition, immersion programs, and technology. This connection of immersion programs and technology aiding in second language acquisition, especially vocabulary acquisition, is clear through this literature review. However, gaps have also been discovered. In research of second language and vocabulary acquisition, all studies used specific and limited participant samples and lacked generalizability, meaning due to the singular themes and focused nature of their research, data found could not be applied to other studies. The biggest gap in research regarding immersion education was that there were not many studies with a vocabulary acquisition focus. While this does not give much of a basis to conduct research off of, it does allow for research to be completed. Due to the popularity of technology, there has been extensive research done in this field. However, there are still gaps in the research. When combining these gaps, it shows that more research must be done in the second language acquisition and immersion fields when discussing technology's role in vocabulary acquisition. The gap that was examined in the following research is how the use of technology in the second language over a period of time helps language acquisition. None of the aforementioned articles had a focus on solely using the second language while using technology. If the aiding factors of immersion education and

technology combine in virtual immersion, will it have an effect on student second language vocabulary acquisition?

### **Methods**

The purpose of this research was to examine the effects of virtual immersion on vocabulary acquisition during the process of learning a second language, which in this case is Spanish. Vocabulary is an essential part of learning a language and therefore the research was focused on whether technology can aid vocabulary acquisition, as well as students' perceptions on this learning process. Specifically, the research tried to answer the question, "What effect, if any, does virtual immersion, in the form of [www.edmodo.com](http://www.edmodo.com), have on vocabulary acquisition when learning a second language?" and determined if my hypothesis that virtual immersion will have a positive effect on vocabulary acquisition leading to a better understanding of the second language was supported.

### **Setting and Participants**

This study took place in a suburban high school in central Virginia. According to the Virginia Department of Education website, the county has a total student population of about 28,000. This particular high school has a total student population of about 2,000. The school has a diverse population, however the majority of students are white at 67%, 10% are Hispanic, 15% are African American, and 3% are Asian. The remainder of the students identify as American Indian, Hawaiian, or as two or more ethnicities. The research took place in two Spanish II classrooms with about 25-30 students with approximately the same demographics. Class A consisted of sixteen females and thirteen males. The class is 52% white, 17% Hispanic, 14% African American, and 3% Asian. The remainder of the students identify with two or more races or ethnicities. There are seven gifted students and two students with IEPs. Class B consisted of nine females and seventeen males. The class is 73% white, 15% African American, and 12%

Hispanic. One student has an IEP. Research was conducted during the last class period of each day on their alternating schedule.

### **Data Collection**

This was a mixed methods study with a primary focus on quantitative data, which was collected to analyze vocabulary acquisition. Qualitative data was collected to determine students' opinions on virtual immersion. Data was collected during my full time student teaching over the course of a semester. The school operates on an alternating block schedule, meaning classes take place every other day for 90 minutes. Data collection took place during that last period of the day, during Class A and Class B. There were multiple means of data collection during this time. To measure vocabulary acquisition, a pre- and post-test were used. To monitor the students' progress over the course of the semester, student work was collected and analyzed. Student work consisted of posts made by students on the class Edmodo page.

To gather data on the students' opinions on the process, interviews and surveys were used. Five students were interviewed individually. Their responses were coded for common themes. All students participating in the research took a Likert scale survey at the end of the research to collect opinions.

In order to see if virtual immersion played a role in the changes in the students' post-test scores, a control class was also used. The control class (Class B) took the pre- and post-test as well, but they were given normal instruction with no virtual immersion.

### **Procedure**

Research began with a pre-test to gauge an idea of the students' vocabulary levels. They were tested on vocabulary from the unit they were studying during my time there. The control class also took the pre-test at this time. After the pre-test, instruction began. All instruction took

place on Edmodo. All time spent on Edmodo was virtual immersion time, meaning all instruction was in Spanish, especially all computer activities. The virtual immersion took place over the course of a month. Edmodo activities included vocabulary and grammar activities and games. All Edmodo time took place during school. No Edmodo assignments were done at home because the environment cannot be controlled for immersion. Every class for the month took place either in the computer lab or the classroom with computers or laptops. The purpose of using Edmodo was to create a Spanish immersion environment where students can collaborate and post work. The control class had traditional instruction from the textbook for all class periods.

At the end of the month, the post-test took place for both the control and experimental classes. The interviews and Likert scale surveys (Appendices A and B) also took place at the end of the month. As mentioned earlier, five students were interviewed individually. The interviews were done during class time while the students were watching a movie. Students' names were drawn using popsicle sticks randomization purposes. The five students chosen were asked if they would like to be interviewed. Once the interview process began, students were told that they can stop the interview at any time and they do not have to answer a question if they do not wish to. Three questions used in the interview; "Describe your experience using Edmodo," "How do you feel using technology only in Spanish affected your understanding of the language?" and "What would you change about Edmodo or the assignments if you could?" The Likert scale survey took place after the post-test. All students took the survey. The questions asked students about their virtual immersion experience. The possible responses were "strongly agree," "agree," "undecided," "disagree," and "strongly disagree." One question asked students to rate their experience during the research on a one to ten scale.

**Data Analysis**

After the research was completed, all data was analyzed to see if virtual immersion had an effect on vocabulary acquisition and the students' opinions on the process. The pre- and post-test scores were compared to see if scores rose or fell after the virtual immersion instruction. Post-test scores from the experimental class were compared to the control class's post-test scores to see if virtual immersion played a significant role in acquisition. The interviews will be analyzed for common themes and the Likert scale data will be graphed to show responses.

## **Findings**

Using pre- and post-test scores, interviews, and Likert scale surveys, data was collected to see if virtual immersion had any effect on vocabulary acquisition while learning a second language. The results are divided into two main categories, quantitative and qualitative. The quantitative section will focus on the hard data from the pre- and post-tests, as well as the Likert scale surveys. The qualitative section will focus on the interviews, which reflect the students' attitudes towards their experience during my research.

The purpose of this research was to see if the benefits of immersion education could be combined with those of technology, by means of virtual immersion, to positively affect student acquisition of vocabulary. The finding from this research study, through the use of pre- and post-test scores, supported the notion that online immersion classes lead to higher achievement than regular classroom instruction. This research revealed that technology could play a positive role in learning a second language at the high school level.

### **Quantitative**

Quantitative data from the pre-and post-assessments were analyzed to examine growth in vocabulary acquisition. The pre- and post-test required students to complete the sentence by selecting the correct answer in a multiple-choice format (Appendix E). The pre- and post-test were the same test. Research began with a pre-test to gauge the students' knowledge of the vocabulary they were about to learn. Two sections of a four-section unit were taught during the time of research. The themes for the two sections of vocabulary were "Los Electrodomésticos" and "El Barrio", appliances and the neighborhood. As shown in the Figure 1 below (Appendix F), the students in both classes had very little to no knowledge of the upcoming vocabulary. Class A, the experimental class, demonstrated a higher knowledge of the vocabulary when

compared to Class B, the control class. The average pre-test score for Class A was 4.33. The average pre-test score for Class B was 3.29. As you can see in Figure 2 and 3 (Appendix F) below, the individual score for the pre-tests were varied, with some students receiving almost perfect scores and some with only one or two correct answers.

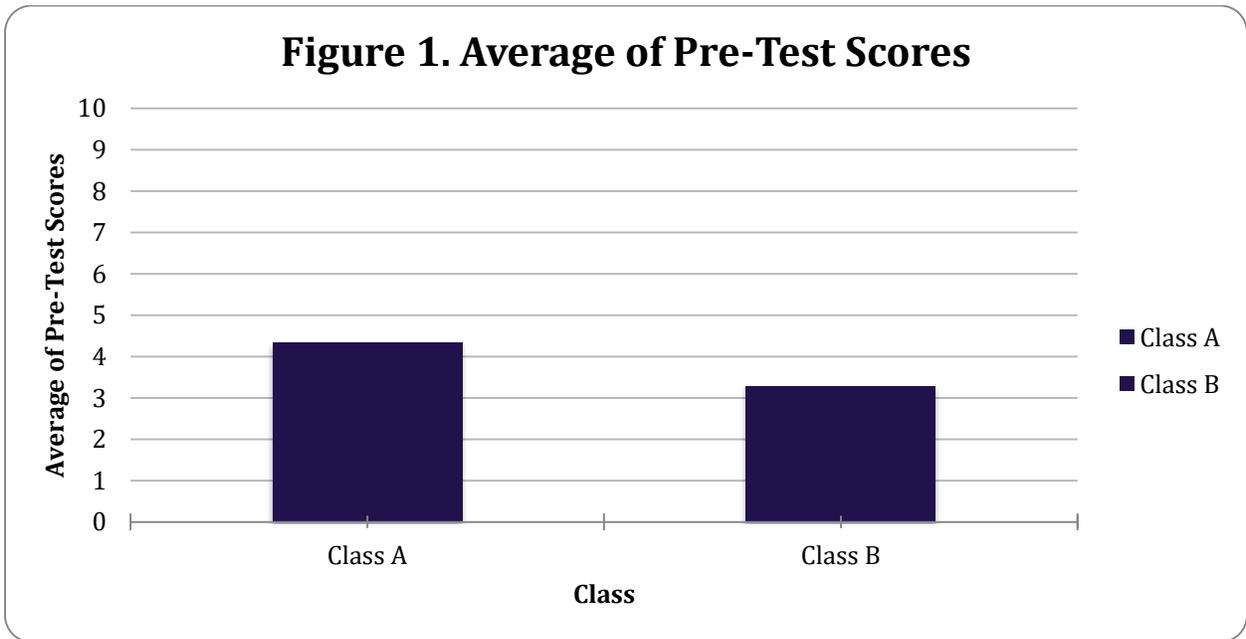


Figure 1. Average of Pre-Test Scores

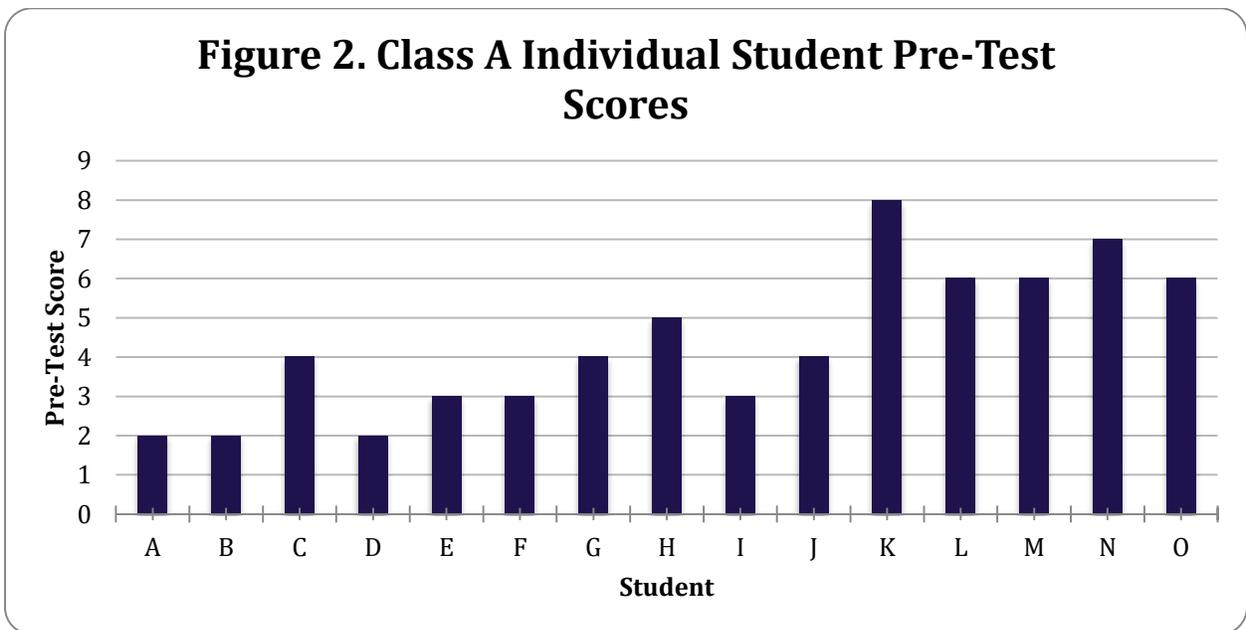


Figure 2. Class A Individual Student Pre-Test Scores

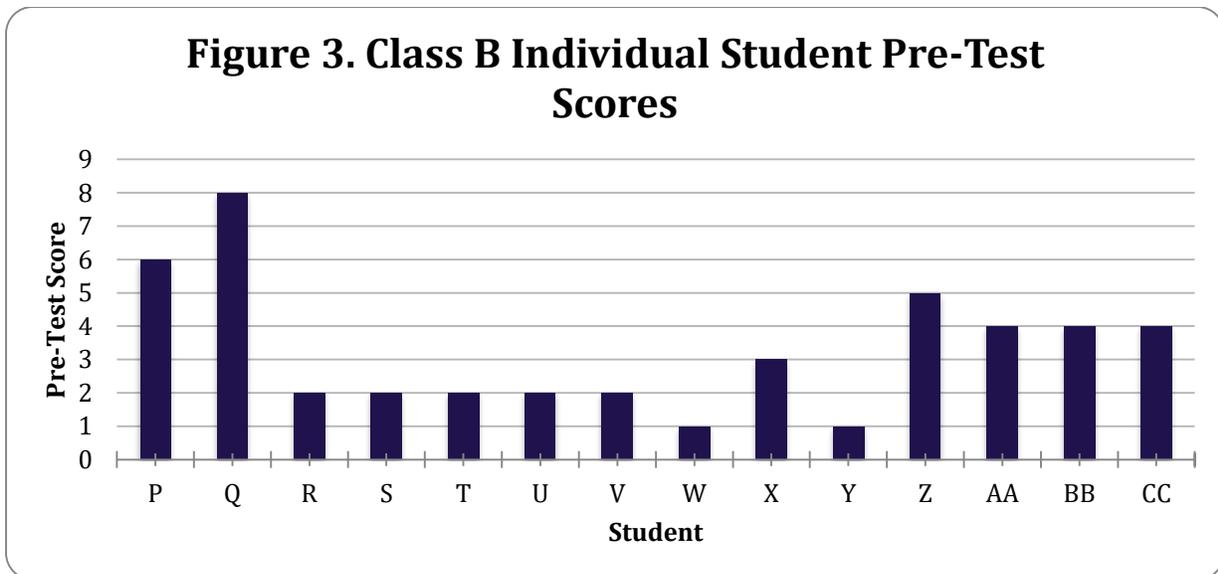


Figure 3. Class B Individual Student Pre-Test Scores

After over a month of virtual immersion and regular instruction and after the test for the two sections were graded, the post-test was distributed. As shown in Figure 4 (Appendix F) below, Class A and B had very different results. The average post-test score for Class A was 8.8. The average post-test score for Class B was 5.86. The individual student post-test scores, shown in Figure 5 and 6 (Appendix F), showed improvement for the majority of all the students, with only one student with a drop in score and two with the same pre- and post-test scores. As shown in Figure 7 (Appendix F), Class A, overall, had a larger percent increase from the pre-test to the post-test.

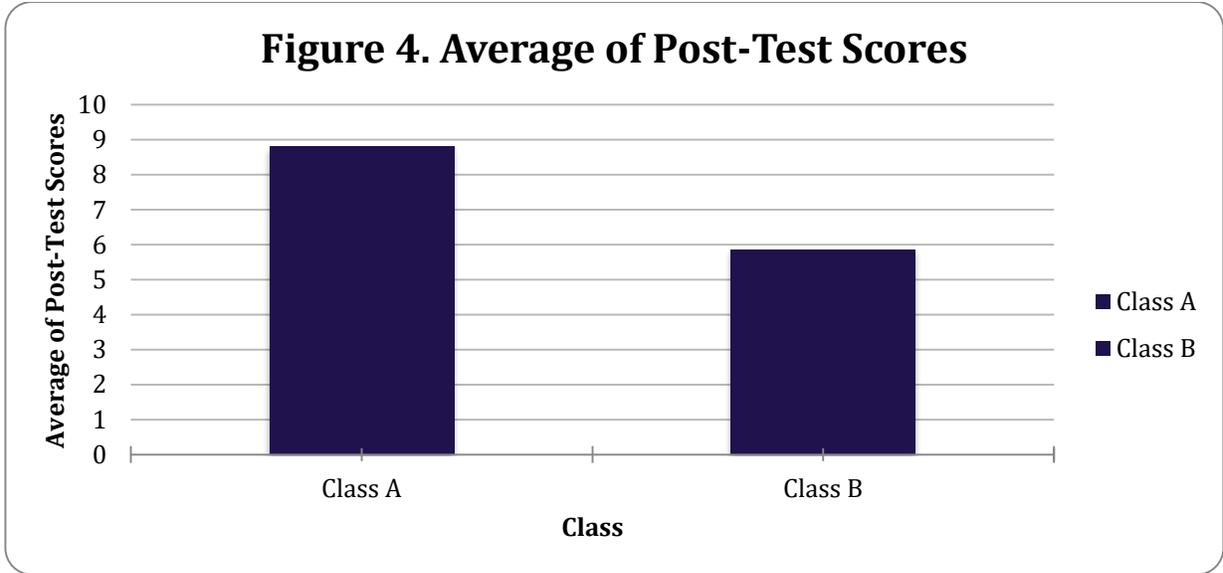


Figure 4. Average of Post-Test Scores

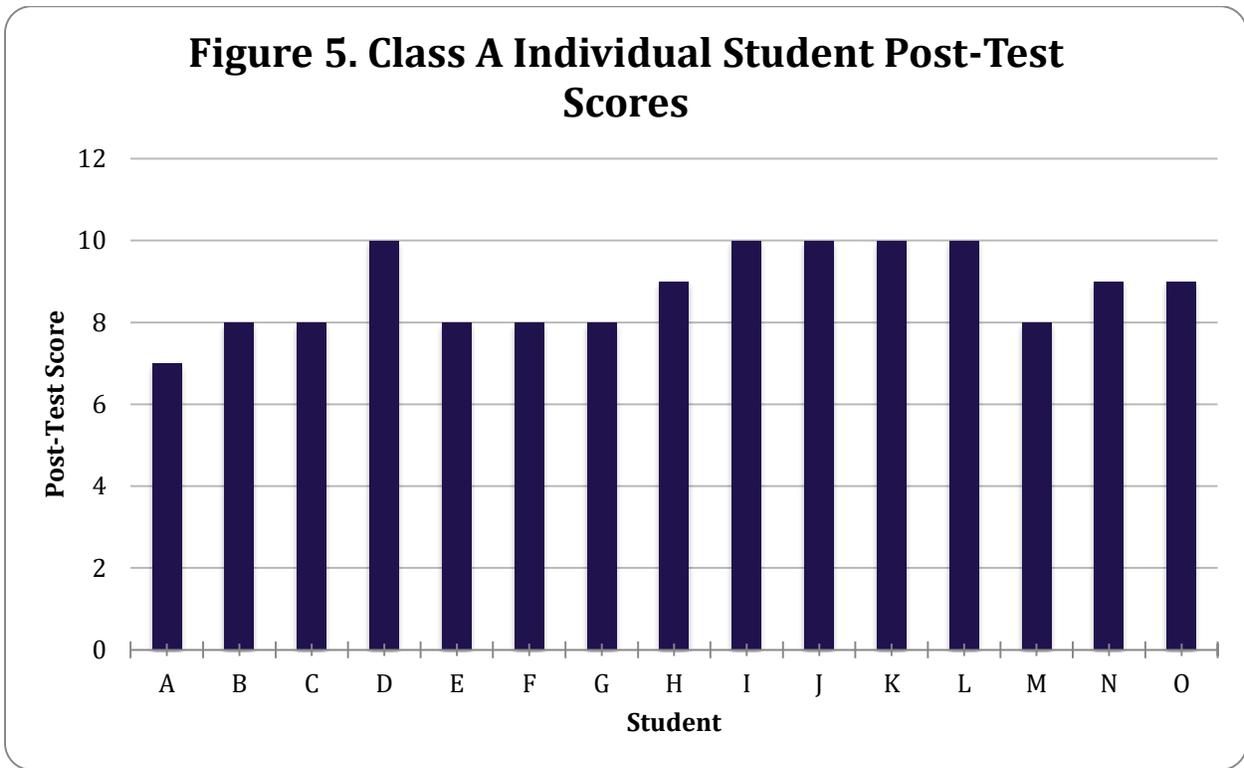


Figure 5. Class A Individual Student Post-Test Scores

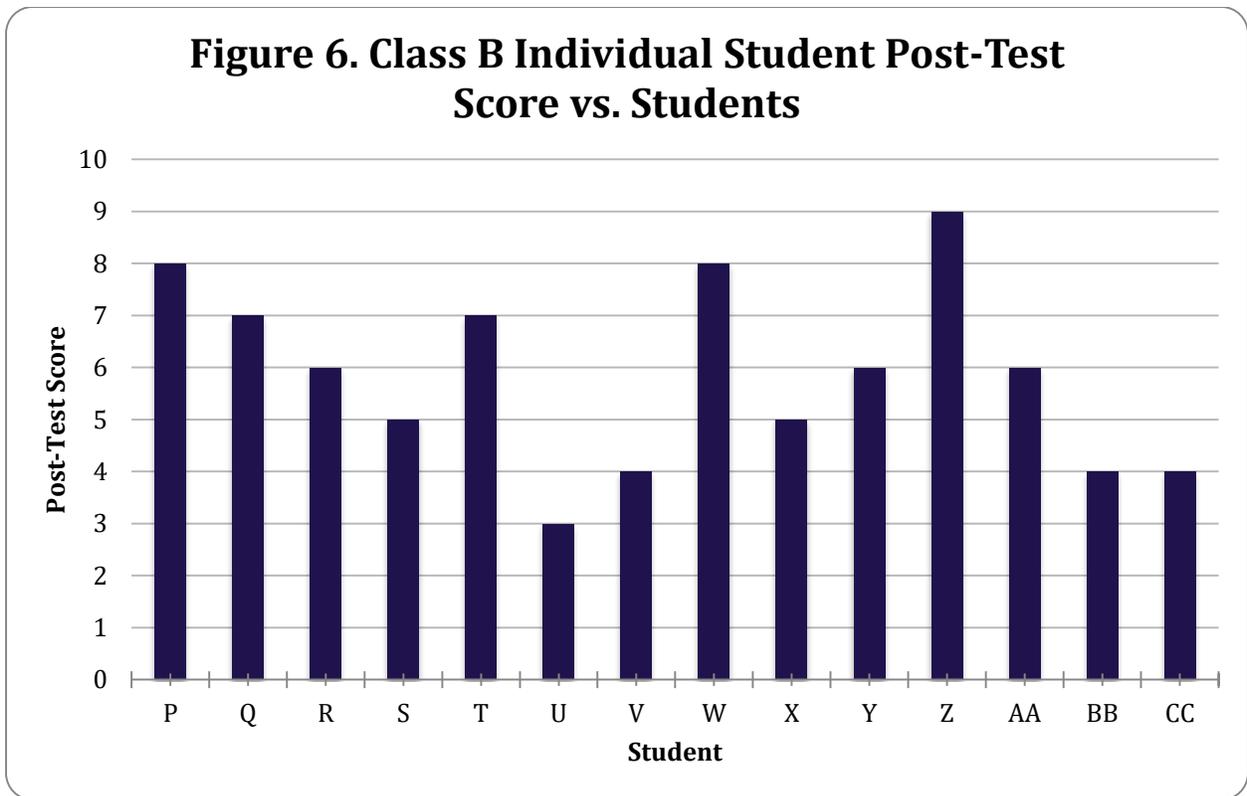


Figure 6. Class B Individual Student Post-Test Scores

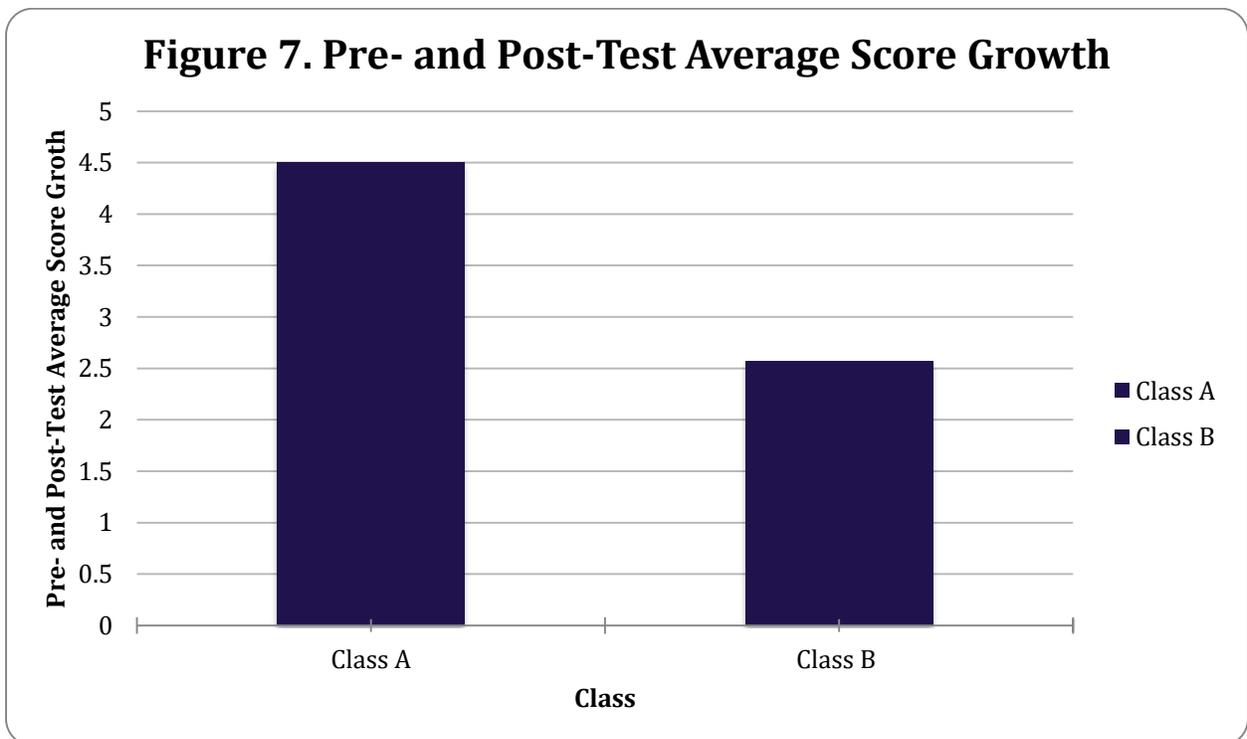


Figure 7. Pre- and Post-Test Average Score Growth

The Likert scale surveys (Appendix B) were distributed a week after the post-test were given. They were only issued to Class A, as they pertained to their opinions of Edmodo and virtual immersion. The Likert scales were used to quantize the student's opinions, as while a method of teaching might work well for students, it will ultimately fail if they students do not enjoy the process. The results of the surveys can be seen in Figures 8 through 14 below (Appendix G).

As the figures show, the majority of the students, 66%, strongly agreed or agreed that they enjoyed their time using Edmodo in the classroom and with 51% strongly agreeing or agreeing that they would like to continue using the site. The results also support the fact that students enjoy using technology, in general, in the classroom with 86% strongly agreeing or agreeing (Abdous et al., 2009). Figure 14 (Appendix G) supports this as well, with the students' ratings of their Edmodo and virtual immersion experience.

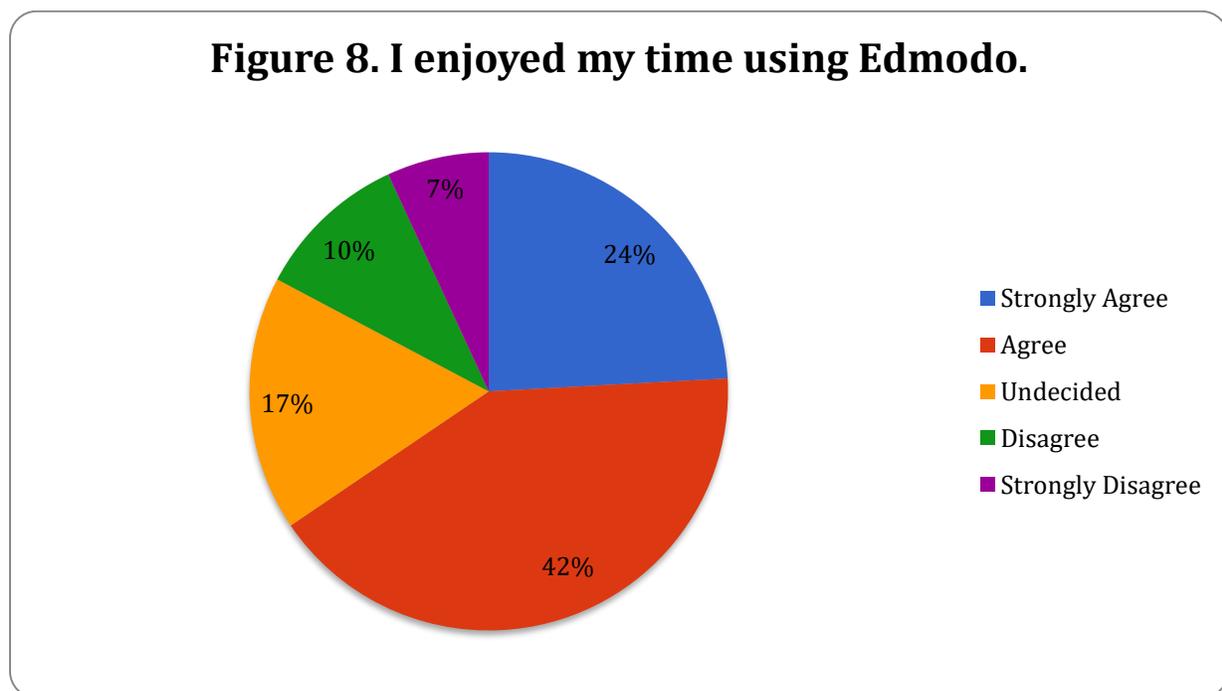
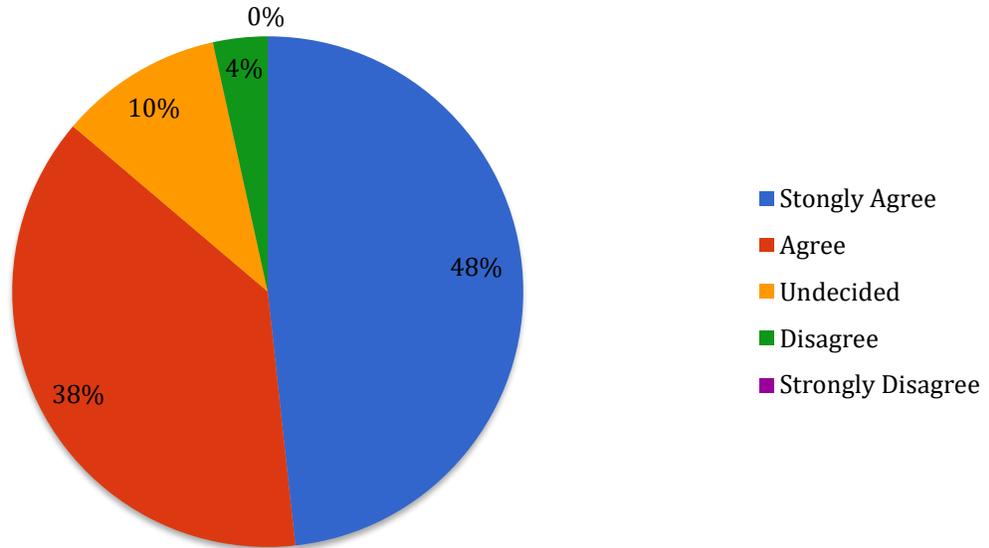


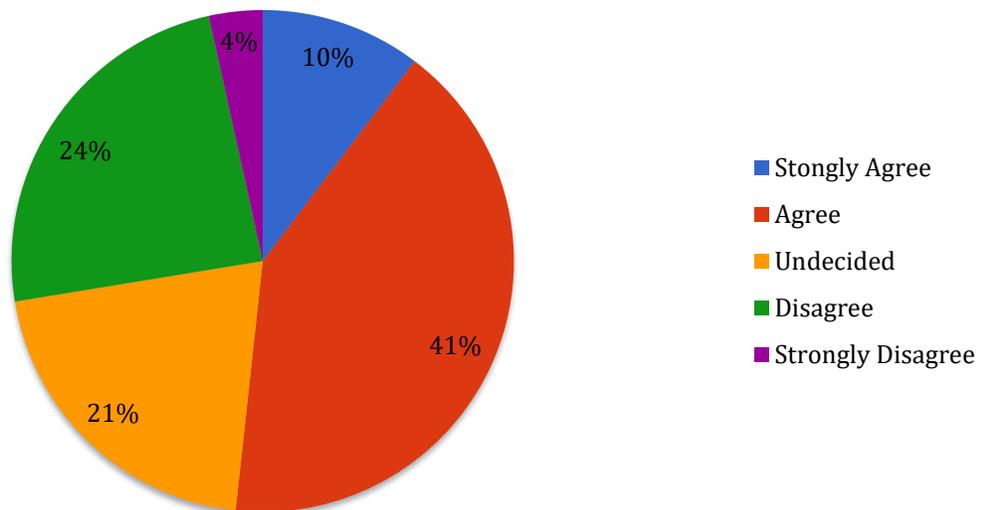
Figure 8. I enjoyed my time using Edmodo.

**Figure 9. I like using technology in the classroom.**



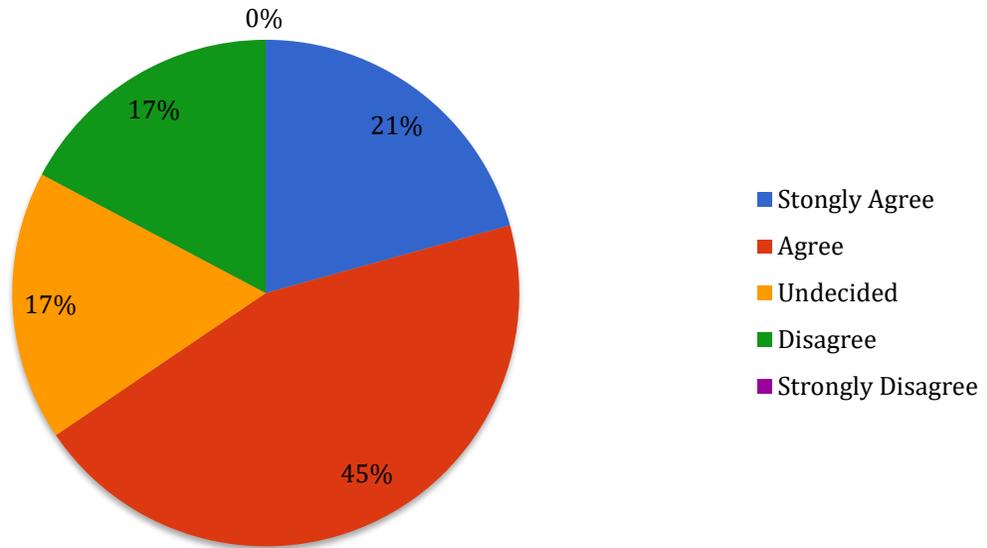
*Figure 9. I like using technology in the classroom.*

**Figure 10. I would like to continue using Edmodo in my language learning process.**



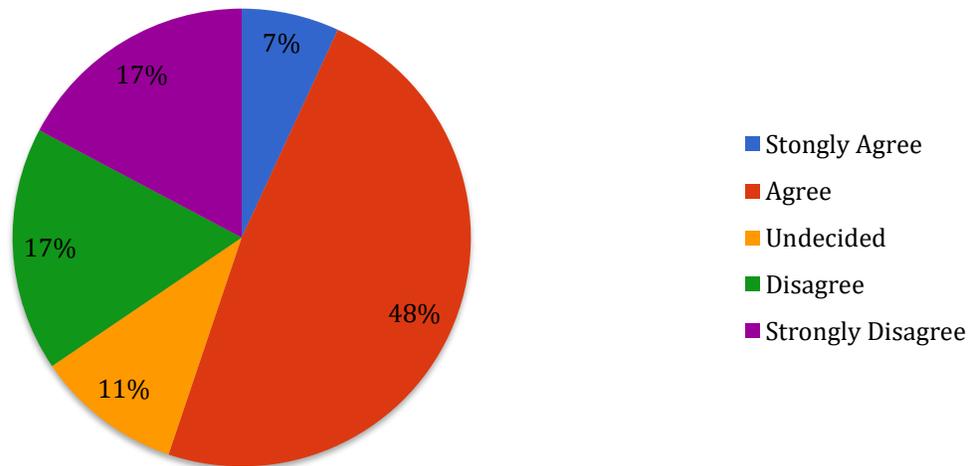
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**Figure 11. I believe Edmodo helped my vocabulary acquisition.**



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**Figure 12. I believe having the Edmodo site in only Spanish helped my second language acquisition.**



*Figure 12. I believe having the Edmodo site only in Spanish helped my second language acquisition.*

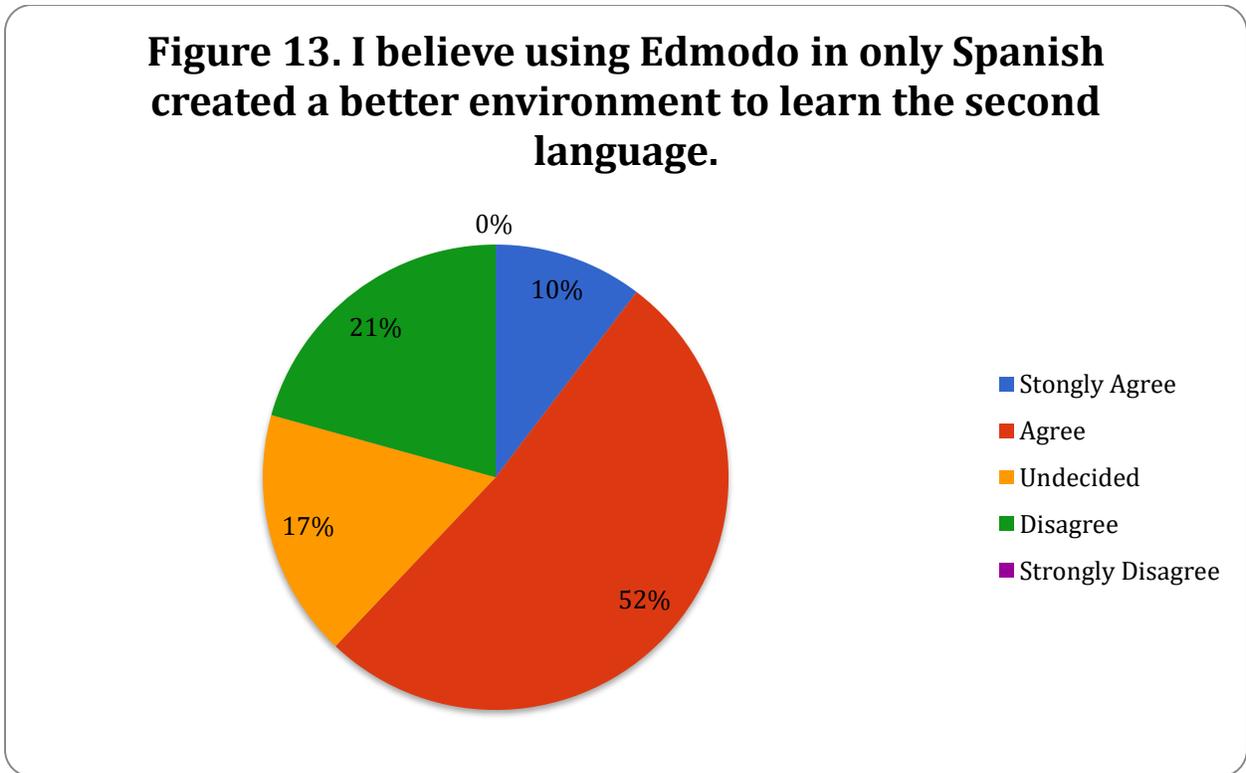


Figure 13. I believe using Edmodo in only Spanish created a better environment to learn the second language.

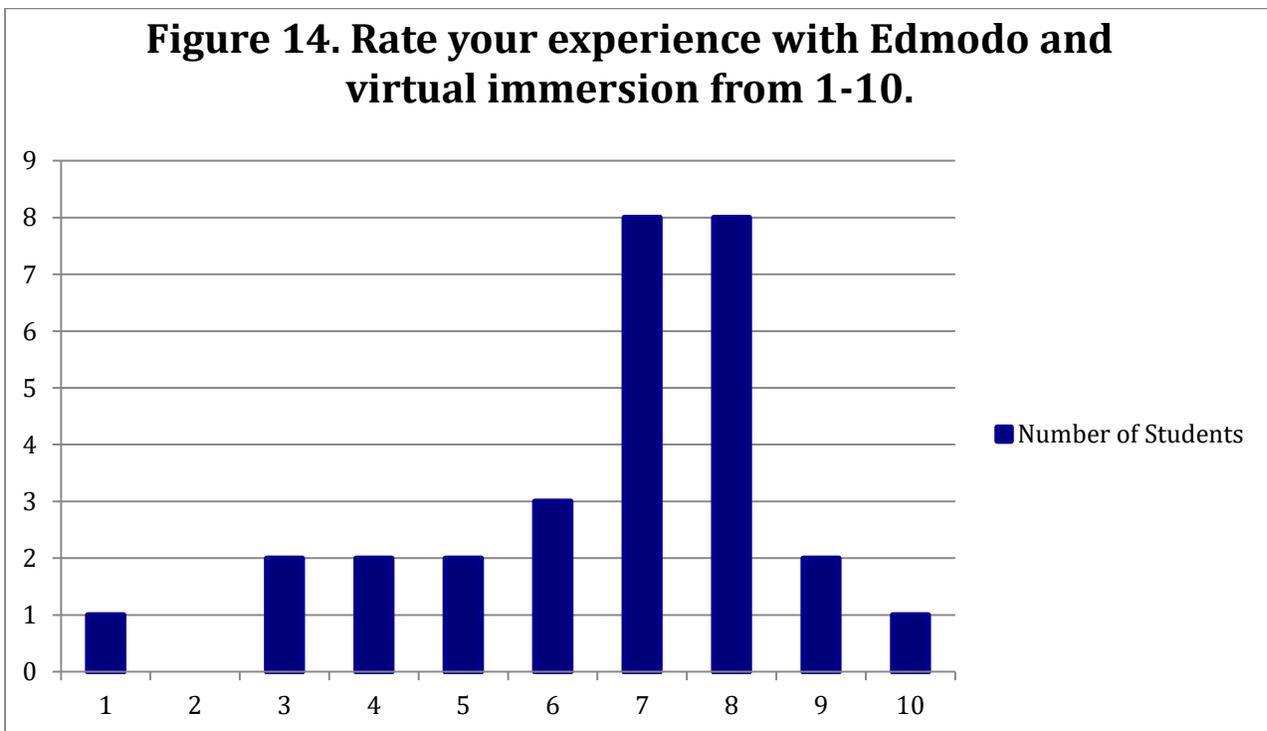


Figure 14. Rate your experience with Edmodo and virtual immersion from 1-10.

The survey results in Figures 11, 12, and 13 also showed that they students believe the virtual immersion process helped with their language acquisition, further supporting research showing technology's place in education (Lan, 2013; Yuldashev et al., 2012). These results also support this research's hypothesis that immersion and technology together has a positive effect on vocabulary acquisition.

### **Qualitative**

Among all of the quantitative data collected, qualitative data was also collected. While the numbers may show that one method may work better for students than another, if the students do not enjoy said method, it would be hard to continually implement it into the classroom. This was the reasoning behind making the research a mixed-methods study. Five interviews were conducted with students from Class A to get a better understanding of the students' feelings towards Edmodo and virtual immersion.

Each student was asked three questions about their virtual immersion experience (Appendix A). The interview responses, while they reflected the results of the Likert surveys, were not detailed or strong enough to support the hypothesis of this research. However, there were themes found in the responses.

One common theme found when the students were describing their experience with Edmodo is that they enjoyed it because they could do their "own thing." Interview student A stated that the experience was "cool and fun" because "I could do my own thing and not have to wait around for the other kids." Interview Student E, on the other hand, who encountered multiple technology problems during the research, described the experience as "terrible" and "complicated."

Two themes were found when asked about using technology only in Spanish. The first was that it “helped” because it gave them a “better understanding” of Spanish since “you were surrounded by it.” Interview Student A stated it “helped keep me focus on Spanish.” The second theme was “dislike” of the virtual immersion. Interview Student B “didn’t like it” and “didn’t understand a lot of it,” meaning the Spanish words not related to their vocabulary lessons.

The last theme from the final question, asking if there was anything they would change about their experience, was “more English.” Interview Student E stated, “Can I at least get like an English title or somethin’?” While some students said they wouldn’t change anything about the site, they would rather have the site in English, but the assignments in Spanish.

### Discussion

The importance of knowing a second language is growing every day. This can be seen in the number of language classes being offered throughout the country (Rhodes & Pufahl, 2011). However, due to financial problems, many schools have to cut down on language programs. Unfortunately, there are too many students wanting to learn a second language and not enough teachers to cover the classes needed.

A solution schools are turning to is online classes. Widely popular for college course, high schools are now turning to online class to meet the needs of the students. Instead of the traditional classroom setting, students can now take a foreign language class on their computer. While research has shown the positive effects of technology in education, there is a major difference between an online course and teachers implementing technology into their classroom (Lan, 2013; Yuldashev et al., 2012).

Another option for students are immersion programs. In immersion programs, students are surrounded by their second language for half of their school day. While immersion programs are excellent options for those driven to learn a foreign language, many students do not have access to these types of programs one (Xu, Padilla, & Silva, 2015).

With the benefits of both technology and immersion in mind, research was conducted to see if virtual immersion, complete immersion in the second language while using the computer, would positively affect student vocabulary acquisition. As discussed in the findings above, the results showed higher achievement in the class that used virtual immersion. Class A, the experimental class, doubled their average on their post-test scores compared to their pre-test scores. Class A's average improved by 4.5% after their virtual immersion experience. Class B, the control class, only improved their average percentage by 2.57%.

## **Limitations**

While this research supports the use of technology in the classroom, there are some limitations or drawbacks to its use. Students, for the most part, are very technologically savvy and can quickly adapt to new technology. In order for technology to have a positive effect on student's learning, teacher must also be technologically savvy. They must know how to implement the technology in an efficient way and know how to fix any problems that may occur as well.

Another aspect to consider when implementing technology in the classroom is that it must be readily available for all students. There must be enough of whatever technology being used for each student and it must function correctly. One of the major problems seen during this research was the technology not functioning properly and not having enough working computers. This forced the students to work together on the computer and not undergo the complete virtual immersion experience.

Depending on the type used, technology can also take a lot of preparation. When using technology, teachers are responsible, for the most part, for putting everything they need for a lesson on the computer or on a site. One of the major drawbacks of using Edmodo.com was having to type and post all the activities for the students. All activities had to be manually typed up and posted before class, which took a lot of time. While this led to always being prepared for the lesson, it can be hard to improvise or add activities during the lesson.

There were also limitations in relation to the research. In order to have access to technology every time Class A met, the class had to move around to different rooms throughout the month. The class was not able to stay in the computer lab for every session and at times had to use laptops in the classroom. Another limitation was the number of participants. Not all students

turned in their consent and assent forms and many students missed multiple classes. Due to the nature of this immersion research, the data from students who missed days was not included in the results. In total, data from only 29 students was used.

### **Conclusion and Implications for Future Research**

While the results support the hypothesis virtual immersion will have a positive effect on vocabulary acquisition leading to a better understanding of the second language, more research is needed to fully prove the hypothesis. The mixed results from the students' interviews question how well the virtual immersion experience will work in the long term if the students do not enjoy the process.

Overall, based off of this research, I believe that adding technology will only help students in the classroom. Technology allows students to move at their own pace and have all the materials in front of them. With how comfortable today's students are with technology, I think adding it to the class will give the students a sense of familiarity when learning new concepts.

Technology creates the opportunity for differentiation in the classroom. The variety of technology allows for teachers to pick the right technology and level for each of their students. Technology also provides opportunity for expanded learning. Not only can students access authentic materials, advanced or motivated students can complete extra activities or visit more sites instead of having to wait for students learning at a different pace. Students who need more assistance can also get the one on one attention they need.

Adding technology to the classroom requires a lot of upfront planning and care to make sure the technology functions properly. A lot of time was also invested during the month of research to creating the Edmodo site and keeping it updated for every class period. While at first it took getting used to and slowed the pace of the class down, once both the teacher and students adjust to the technology, I believe it quickened the pace of the class and left the teacher with more time for individual assistance. However, I believe it can only aid learning in the classroom. It excites and motivates students and allows for differentiation and individualized learning. And

as the research shows, it also has a positive effect on second language vocabulary acquisition.

While more research needs to be done to fully show the effects of virtual immersion, I believe the more exposure to a language the better.

## References

- Abdous, M., Camarena, M. M., & Facer, B. R. (2009). MALL technology: Use of academic podcasting in the foreign language classroom. *ReCALL*, 21(01), 76-95.  
doi:<http://dx.doi.org/10.1017/S0958344009000020>
- Alemi, M., & Tayebi, A. (2011). The influence of incidental and intentional vocabulary acquisition and vocabulary strategy use on learning L2 vocabularies. *Journal of Language Teaching and Research*, 2(1), 81-98.  
doi:<http://dx.doi.org/10.4304/jltr.2.1.81-98>
- Armstrong, K., & Retterer, O. (2008). Blogging as L2 writing: A case study. *AACE Journal*, 16(3), 233-251.
- Bardovi-Harlig, K. (2009). Conventional expressions as a pragmalinguistic resource: Recognition and production of conventional expressions in L2 pragmatics. *Language Learning*, 59(4), 755-795. doi:10.1111/j.1467-9922.2009.00525.x
- Center For Applied Linguistics. (2009). *Foreign language teaching in U.S. schools: Results of a national survey* (1<sup>st</sup> ed.). Doral, FL: Rhodes, N. C., Pufahl, I.
- la Fuente, M. J. (2006). Classroom L2 vocabulary acquisition: Investigating the role of pedagogical tasks and form-focused instruction. *Language Teaching Research*, 10(3), 263-295. doi:<http://dx.doi.org/10.1191/1362168806lr196oa>
- Holland, C., & Muilenburg, L. Y. (2011, March). *Supporting student collaboration: Edmodo in the classroom*. Paper presented at Society for Information Technology & Teacher Education International Conference, Chesapeake, VA.

- Kissau, S., Adams, M. J., & Algozzine, B. (2015). Middle school foreign language instruction: A missed opportunity? *Foreign Language Annals*, 48(2), 284-303.  
doi:<http://dx.doi.org/10.1111/flan.12133>
- Lan, Y. J. (2013). The effect of technology-supported co-sharing on L2 vocabulary strategy development. *Journal of Educational Technology & Society*, 16(4), 1-16.
- Montero-Fleta, B., & Pérez-Sabater, C. (2010). A research on blogging as a platform to enhance language skills. *Procedia-Social and Behavioral Sciences*, 2(2), 773-777.  
doi:<http://dx.doi.org/10.1016/j.sbspro.2010.03.100>
- Rhodes, Nancy C., & Pufahl, Ingrid. (2008). Foreign language teaching in U.S. schools: Results of a national survey.
- Snow, M. A., Padilla, A. M., & Campbell, R. N. (1988). Patterns of second language retention of graduates of a Spanish immersion program. *Applied Linguistics*, 9(2), 182-197.
- Vasbø, K. B., Silseth, K., & Erstad, O. (2014). Being a learner using social media in school: The case of Space2cre8. *Scandinavian Journal of Educational Research*, 58(1), 110-126.  
doi:<http://dx.doi.org/10.1080/00313831.2013.773555>
- Xu, X., Padilla, A. M., & Silva, D. M. (2015). Learner performance in Mandarin immersion and high school world language programs: A comparison. *Foreign Language Annals*, 48(1), 26-38. doi:<http://dx.doi.org/10.1111/flan.12123>
- Yuldashev, A., Fernandez, J., & Thorne, S. L. (2013). Second language learners' contiguous and discontinuous multi-word unit use over time. *The Modern Language Journal*, 97(S1), 31-45. doi:<http://dx.doi.org/10.1111/j.1540-4781.2012.01420.x>

Appendix A

Student Interview Questions

Post-Intervention

1. "Describe your experience using Edmodo."
2. "How do you feel using technology only in Spanish affected your understanding of the language?"
3. "What would you change about Edmodo or the assignments if you could?"

## Appendix B

## Likert Scale Student Survey

These questions will help me understand how you feel about using Edmodo and how it affected your learning. Circle the answer that you feel. Please be honest! You will NOT be graded on your answers!

1. I enjoyed my time using Edmodo.

Strongly Agree      Agree      Undecided      Disagree      Strongly Disagree

2. I like using technology in the classroom.

Strongly Agree      Agree      Undecided      Disagree      Strongly Disagree

3. I would like to continue using Edmodo in my language learning process.

Strongly Agree      Agree      Undecided      Disagree      Strongly Disagree

4. I believe Edmodo helped my vocabulary acquisition.

Strongly Agree      Agree      Undecided      Disagree      Strongly Disagree

5. I believe having the Edmodo site in only Spanish helped my second language acquisition.

Strongly Agree      Agree      Undecided      Disagree      Strongly Disagree

6. I believe using Edmodo in only Spanish created a better environment to learn the second language.

Strongly Agree      Agree      Undecided      Disagree      Strongly Disagree

7. "Rate you experience with Edmodo and virtual immersion from 1-10."

1      2      3      4      5      6      7      8      9      10

## Appendix C

## Consent Letter Experimental Group

Dear Parent or Guardian,

Hello, my name is Colleen Durkin, and I am a student teacher in your child's classroom. I am currently a graduate student at the University of Mary Washington working towards my Masters in PreK-12 Education. A requirement of our program is to conduct an action research study in an area related to our studies. I am inviting your child to participate in a research study I am doing. Involvement in the study is voluntary, so you may choose to have your child participate or not. I am now going to explain the study to you.

I am interested in learning about how technology can help vocabulary acquisition when learning a second language. For a month, students in your child's class will be using a website called Edmodo to complete vocabulary acquisition activities. Edmodo is a collaborative classroom website controlled by the instructor where students can post assignments, participate in discussion, and complete activities. I am requesting permission for your student to use Edmodo in class and to give your child a survey to reflect on this process. I am also requesting to interview your child answering questions about their experience.

Your child's work will be kept confidential. His or her name will not appear in any papers in the project. All names will be changed to protect his or her privacy. Following the project, all tests, surveys, and interviews I collect will be destroyed. Participation in this project will not affect your child's grade in any way. His or her participation in the study is voluntary, and you have the right to keep your child out of the study.

Also, your child is free to stop participating in the study at any time. Your child would still participate in the Edmodo activities, surveys, and tests, but data for the research study would not be collected from him or her.

The benefit of this research is that your student will have more focused and varied vocabulary instruction. The only potential risk is that your child may be uncomfortable being interviewed. This risk will be minimized by interviewing your child during times that all students are working individually.

If you have any further questions or concerns, please do not hesitate to contact my university supervisor, Dr. Patricia Reynolds ([preynolds@umw.edu](mailto:preynolds@umw.edu)) or myself ([cdurkin@mail.umw.edu](mailto:cdurkin@mail.umw.edu)). Please return this form by January 18, 2016 I look forward to working with you and your student!

The research described above has been approved by the University of Mary Washington IRB which is a committee responsible for ensuring that research is being conducted safely and that risks to participants are minimized. For information about the review of this research, contact the

IRB chair, Dr. Jo Tyler at [jtyler@umw.edu](mailto:jtyler@umw.edu).

Thank you,  
Colleen Durkin

I have read the above letter and give my child, \_\_\_\_\_, permission to participate in this project.

\_\_\_\_\_  
(Parent/Guardian Name in print)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Parent/Guardian Signature)

I, agree to keep all information and data collected during this research project confidential.

\_\_\_\_\_  
(Student Teacher/Researcher Signature)

\_\_\_\_\_  
(Date)

## Consent Letter Experimental Group

Dear Parent or Guardian,

Hello, my name is Colleen Durkin, and I am a student teacher in your child's classroom. I am currently a graduate student at the University of Mary Washington working towards my Masters in PreK-12 Education. A requirement of our program is to conduct an action research study in an area related to our studies. I am inviting your child to participate in a research study I am doing. Involvement in the study is voluntary, so you may choose to have your child participate or not. I am now going to explain the study to you.

I am interested in learning about how technology can help vocabulary acquisition when learning a second language. During my time in your student's classroom, I will be conducting research on vocabulary acquisition and what method of instruction is the best aid to students. I am requesting permission to use your students' classwork, including written activities, worksheets, quizzes, and tests as a comparison to another class.

Your child's work will be kept confidential. His or her name will not appear in any papers in the project. All names will be changed to protect his or her privacy. Following the project, all tests, surveys, and interviews I collect will be destroyed. Participation in this project will not affect your child's grade in any way. His or her participation in the study is voluntary, and you have the right to keep your child out of the study.

Also, your child is free to stop participating in the study at any time. Your child would still participate in the activities, but data for the research study would not be collected from him or her.

The benefit of this research is that your student will have more focused and varied vocabulary instruction.

If you have any further questions or concerns, please do not hesitate to contact my university supervisor, Dr. Patricia Reynolds ([preynolds@umw.edu](mailto:preynolds@umw.edu)) or myself ([cdurkin@mail.umw.edu](mailto:cdurkin@mail.umw.edu)).

Please return this form by January 18, 2016 I look forward to working with you and your student!

The research described above has been approved by the University of Mary Washington IRB which is a committee responsible for ensuring that research is being conducted safely and that risks to participants are minimized. For information about the review of this research, contact the IRB chair, Dr. Jo Tyler at [jtyler@umw.edu](mailto:jtyler@umw.edu).

Thank you,  
Colleen Durkin

I have read the above letter and give my child, \_\_\_\_\_, permission to participate in this project.

\_\_\_\_\_  
(Parent/Guardian Name in print)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Parent/Guardian Signature)

I, agree to keep all information and data collected during this research project confidential.

\_\_\_\_\_  
(Student Teacher/Researcher Signature)

\_\_\_\_\_  
(Date)

## Appendix D

## Assent Letter Experimental Group

Dear Student,

I am very excited to be your student teacher throughout the spring! For a month during my time with you, I will be doing a research project that is part of my Master's degree requirements at the University of Mary Washington. The goal of my research is to find out how using a Spanish website improves your vocabulary in Spanish. I am writing this letter to ask if you would like to participate in my study and to explain what you would do if you agree to participate. Your participation is completely voluntary, but please read this letter before deciding whether to participate or not. We will be using a classroom website called Edmodo during our vocabulary instruction. We will be doing class discussions and reading and vocabulary activities completely in Spanish.

The purpose of this study is to see if using technology completely in Spanish can help with learning vocabulary. You will be given tests that the beginning and end of my research to see if Edmodo had any influence on your vocabulary acquisition. This test will not be graded. All work done on Edmodo will be graded for completion.

Your parents were given a letter about taking part in this study. If your parents did not allow you to participate in this study, you will not be asked to sign this form. However, if your parents did allow you to participate, I encourage you to participate in this study. You do not have to be in this study. You will still be participating in the Edmodo class site and a survey, however your work will not be used in my research.

If you agree to be in the study, I might ask you to be interviewed individually with me. If you decide to be in the study, I will keep your information confidential. This means that I will not use your names or the name of the school in anything I write and I will not reveal any personal, identifying information about you.

Signing this form means that you have read it or have had it read to you, and that you are willing to be in this study. If at any point you have any questions, please ask me.

Thanks,  
Ms. Durkin

I have been read the above letter, all my questions have been answered, and I agree to participate in the project.

\_\_\_\_\_  
(Student Name in print)

\_\_\_\_\_  
(Student Signature)

\_\_\_\_\_  
(Date)

I will keep your names confidential.

\_\_\_\_\_  
(Student Teacher/Researcher Signature)

\_\_\_\_\_  
(Date)

## Assent Letter Control Group

Dear Student,

I am very excited to be your student teacher throughout the spring! For a month during my time with you, I will be doing a research project that is part of my Master's degree requirements at the University of Mary Washington. The goal of my research is to find out how using a Spanish website improves your vocabulary in Spanish. I am writing this letter to ask if you would like to participate in my study and to explain what you would do if you agree to participate. Your participation is completely voluntary, but please read this letter before deciding whether to participate or not.

Your class will be given traditional vocabulary instruction, using the text and workbook, as well as other worksheets and activities. I am asking for your permission to use your work and grades in my research.

Your parents were given a letter about taking part in this study. If your parents did not allow you to participate in this study, you will not be asked to sign this form. However, if your parents did allow you to participate, I encourage you to participate in this study.

You do not have to be in this study. You will still be participating in the classwork, however your work will not be used in my research.

If you agree to be in the study, I might ask you to be interviewed individually with me. If you decide to be in the study, I will keep your information confidential. This means that I will not use your names or the name of the school in anything I write and I will not reveal any personal, identifying information about you.

Signing this form means that you have read it or have had it read to you, and that you are willing to be in this study. If at any point you have any questions, please ask me.

Thanks,  
Ms. Durkin

I have been read the above letter, all my questions have been answered, and I agree to participate in the project.

---

(Student Name in print)

---

(Student Signature)

---

(Date)

I will keep your names confidential.

\_\_\_\_\_  
(Student Teacher/Researcher Signature)

\_\_\_\_\_  
(Date)

## Appendix E

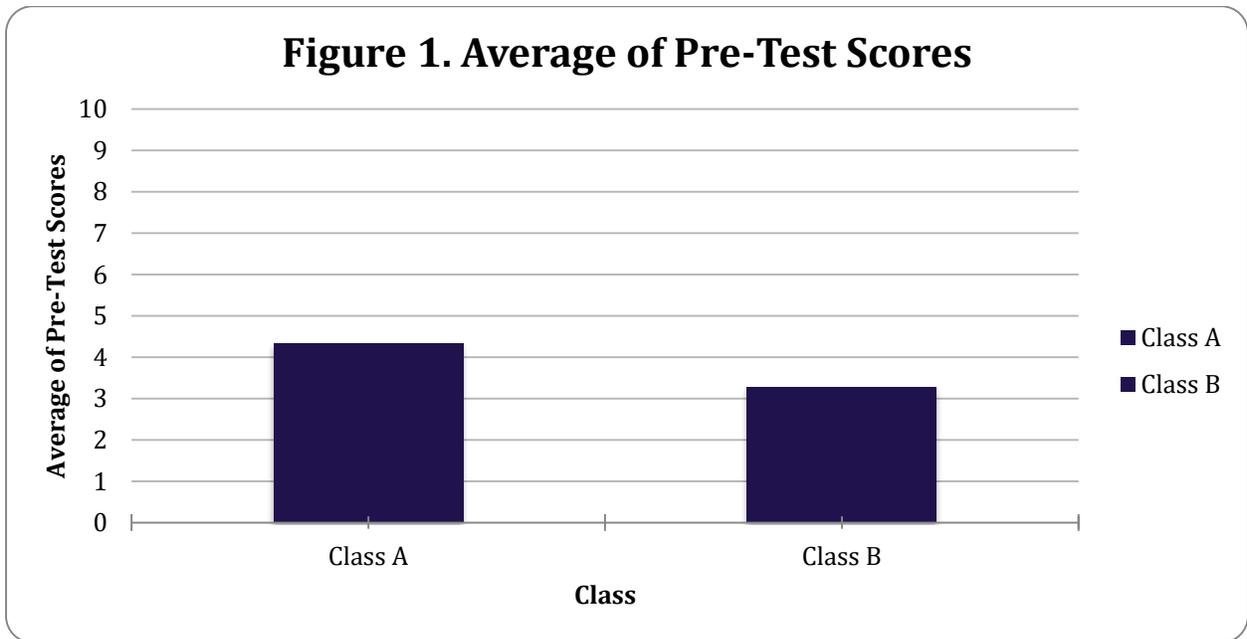
## Pre/Post Test

Directions: Complete each sentence with the correct vocabulary word. Please circle your answer.

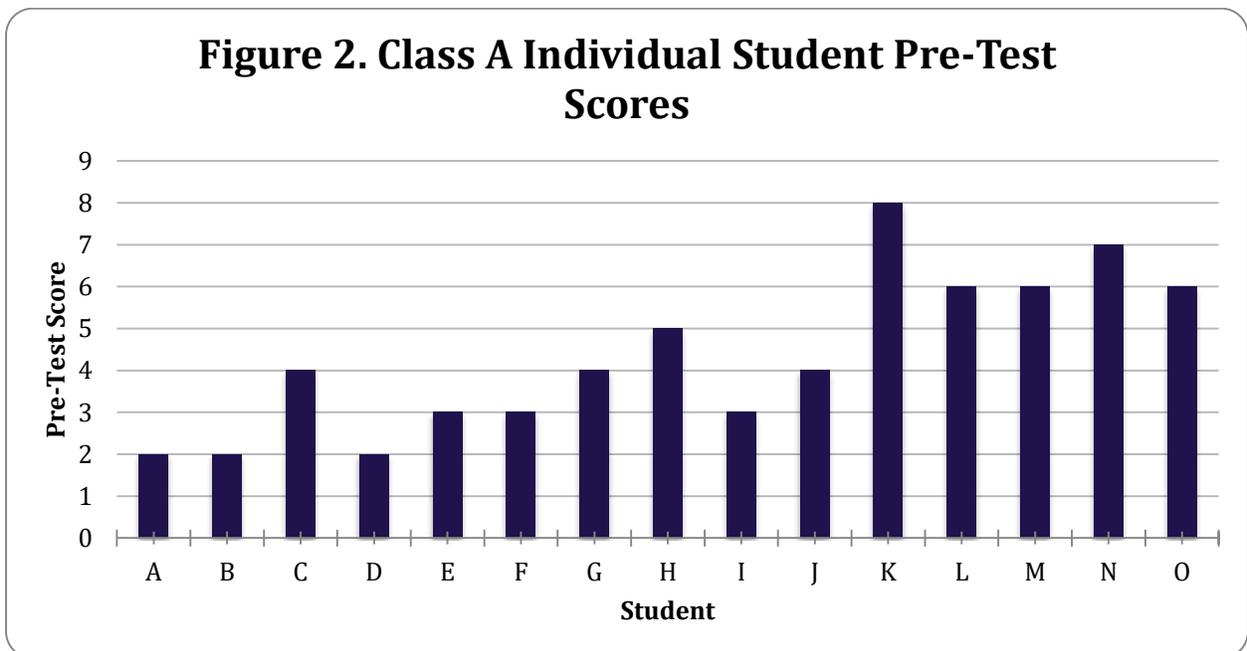
1. Puedo sacar los libros en \_\_\_\_\_.  
a. el banco    b. la escuela    c. la biblioteca    d. la iglesia
2. Mi madre va a la \_\_\_\_\_ cada semana para comprar comida.  
a. el café    b. la tienda de comestibles    c. el parque    d. la biblioteca
3. No hay \_\_\_\_\_ en mi dormitorio.  
a. un refrigerador    b. un despertador    c. una cama    d. una mesita de noche
4. Necesita parar su coche completamente en \_\_\_\_\_.  
a. la acera    b. la calle    c. la avenida    d. la señal de pare
5. Para limpiar la ropa, necesita usar \_\_\_\_\_.  
a. un microondas    b. una estufa    c. una lavadora    d. un equipo de música
6. Mi hermano no puede cocinar, pero puedo calentar su sopa en \_\_\_\_\_.  
a. el lavaplatos    b. la secadora    c. el congelador    d. un microondas
7. Necesito enviar una carta a mi abuela. Necesito ir a \_\_\_\_\_.  
a. la oficina de correos    b. la iglesia    c. la escuela    d. la calle
8. Por favor, pon el helado en \_\_\_\_\_.  
a. la estufa    b. el congelador    c. el microondas    d. la plancha
9. Es importante usar \_\_\_\_\_ cuando dar un paseo.  
a. el semáforo    b. el banco    c. el paso de cebra    d. el parque
10. En el verano, \_\_\_\_\_ es necesario para mantenerse fría.  
a. la caldera de calefacción    b. el aire acondicionado    c. la plancha    d. la lavadora

Appendix F

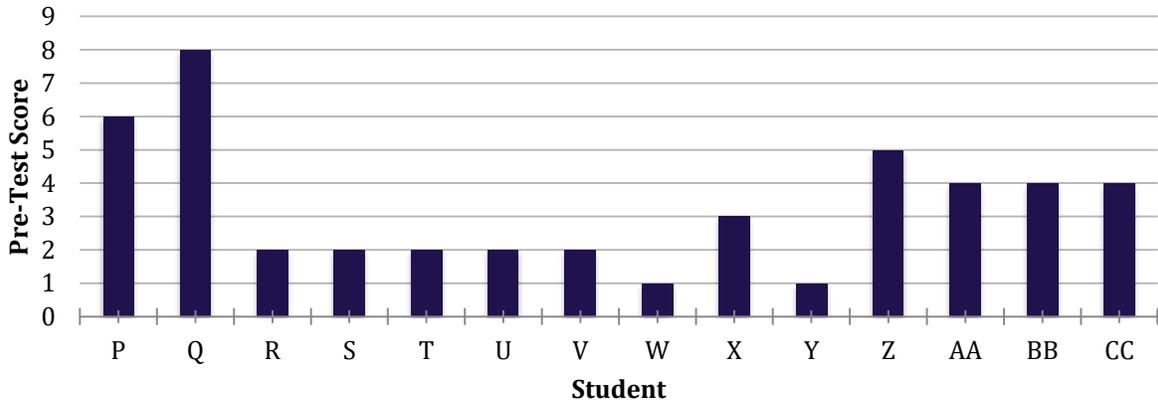
Pre- and Post-Test Results



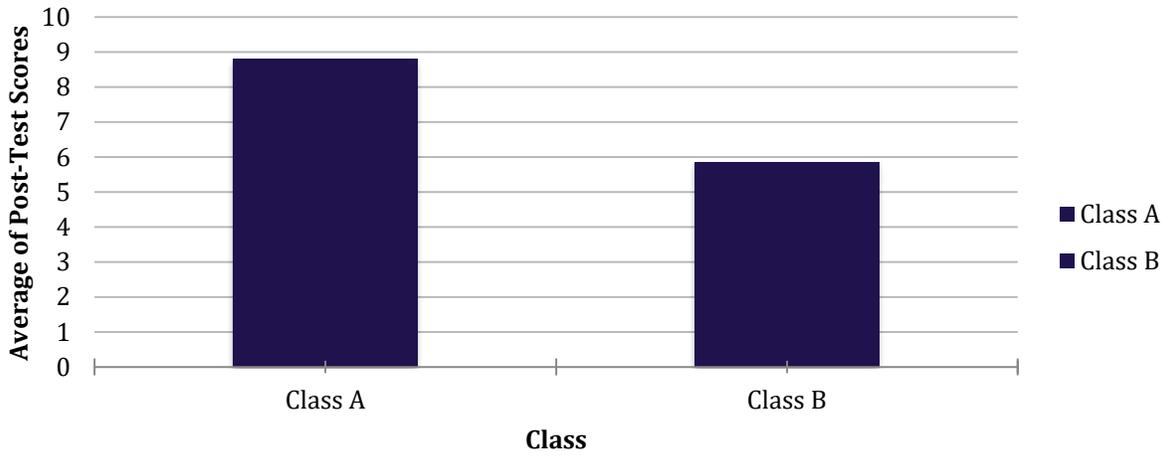
Figure



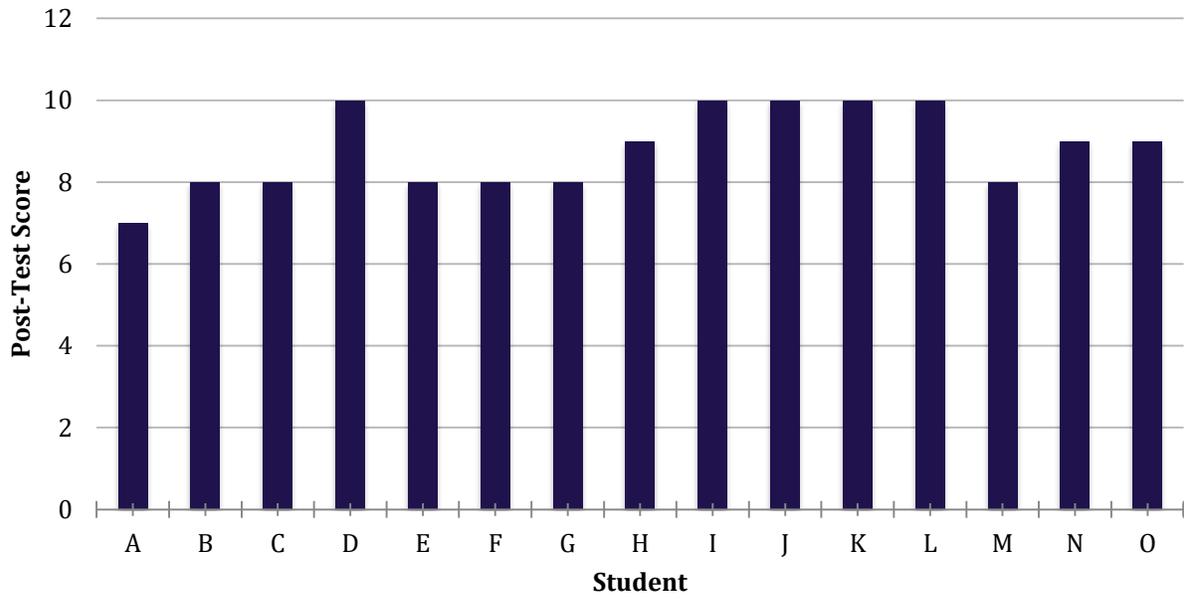
**Figure 3. Class B Individual Student Pre-Test Scores**



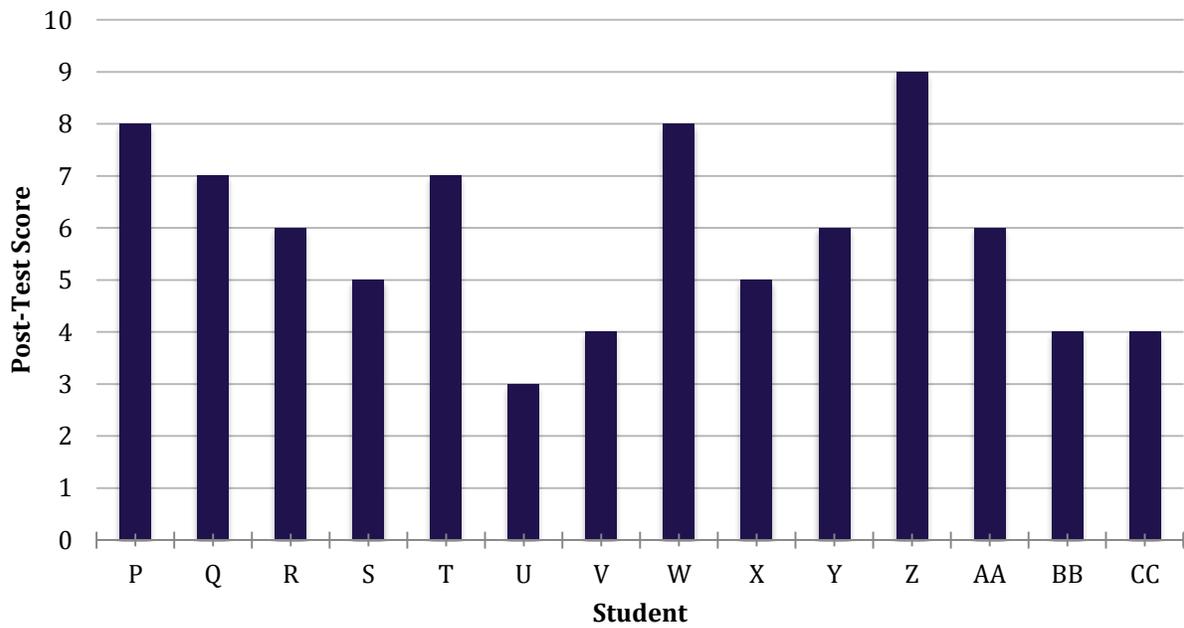
**Figure 4. Average of Post-Test Scores**

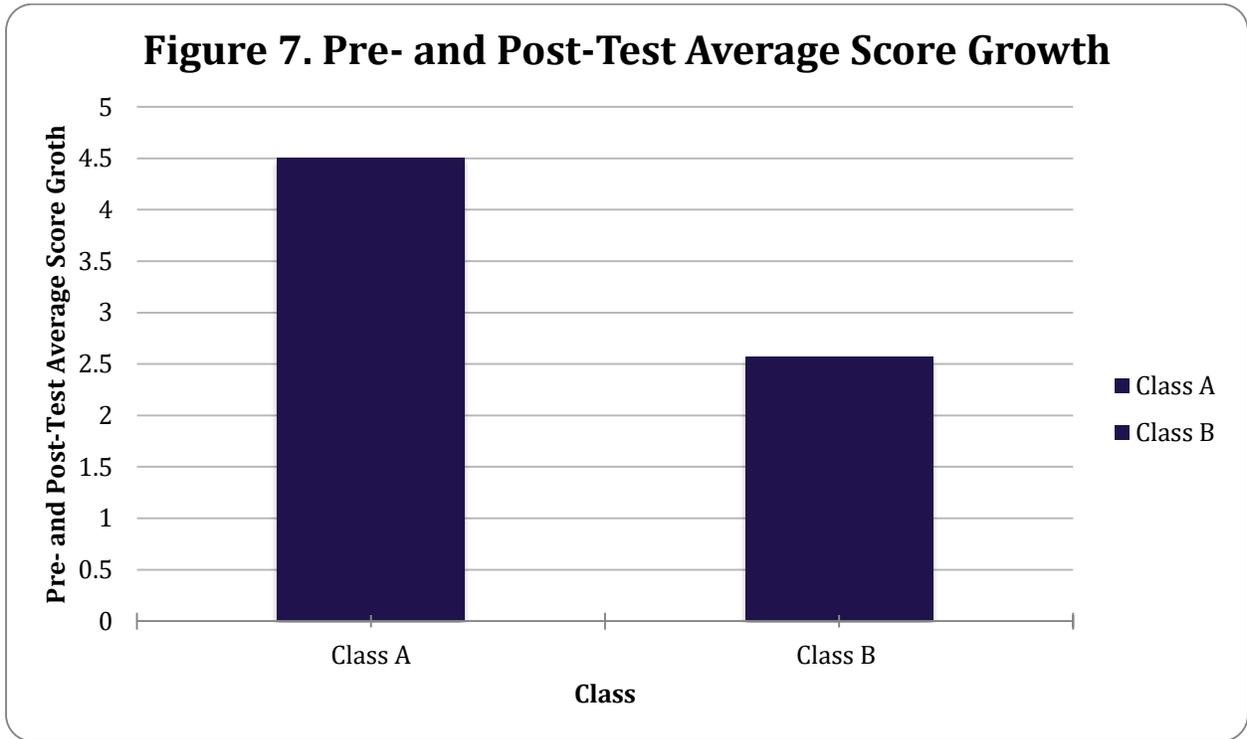


**Figure 5. Class A Individual Student Post-Test Scores**



**Figure 6. Class B Individual Student Post-Test Score vs. Students**

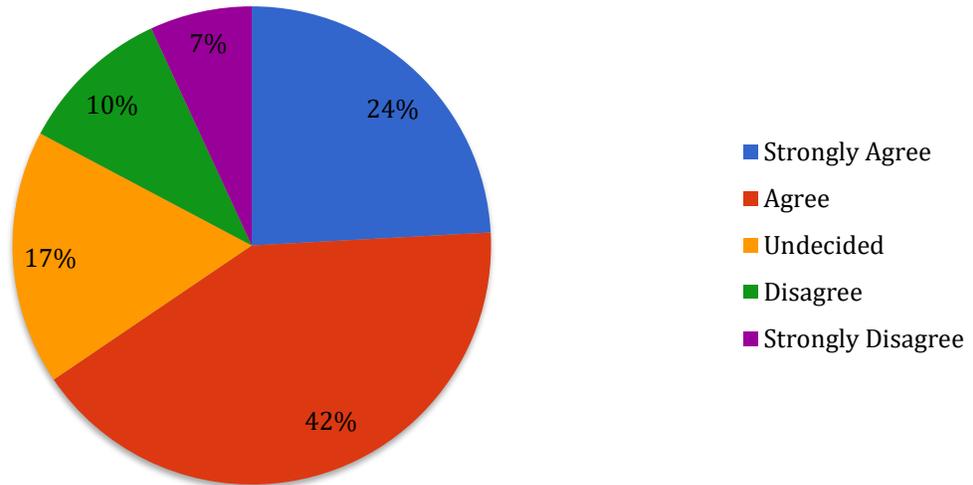




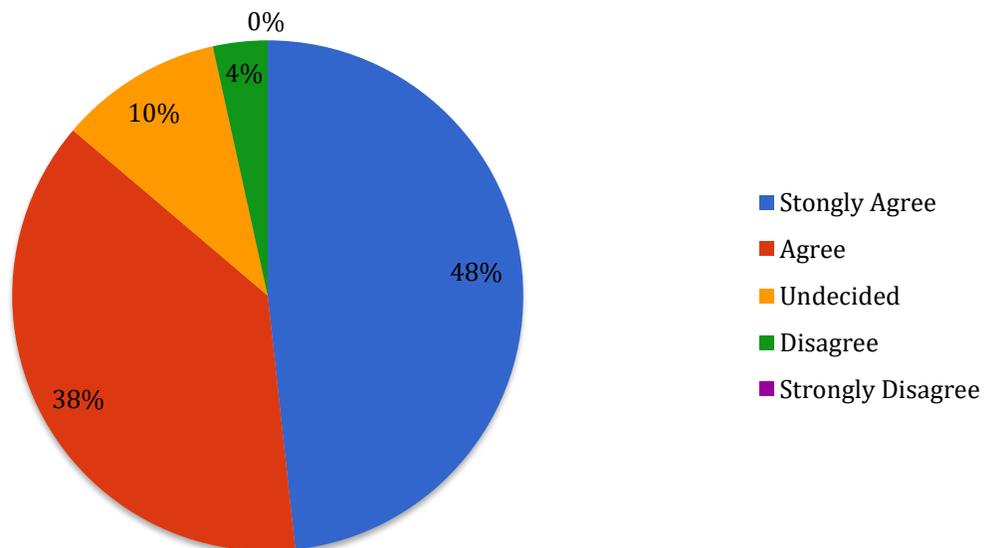
Appendix G

Likert Scale Survey Results

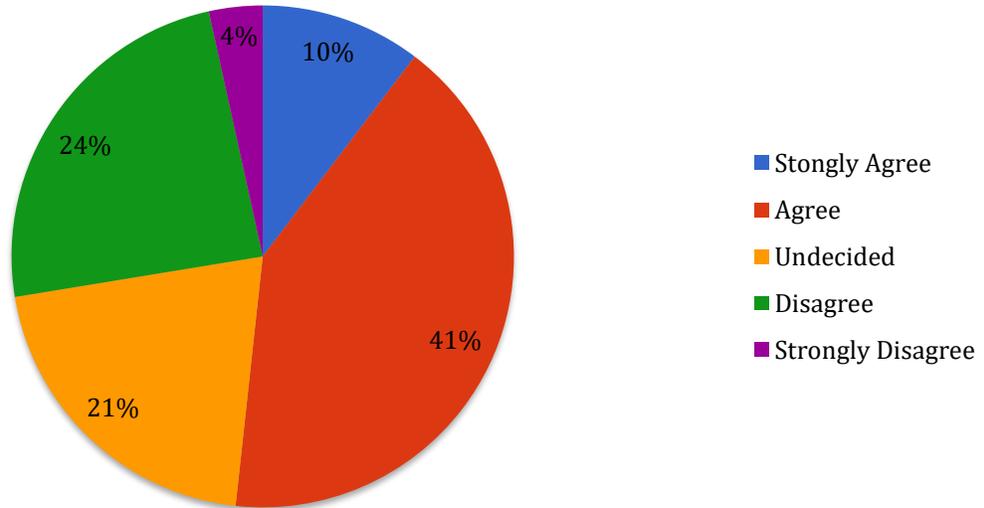
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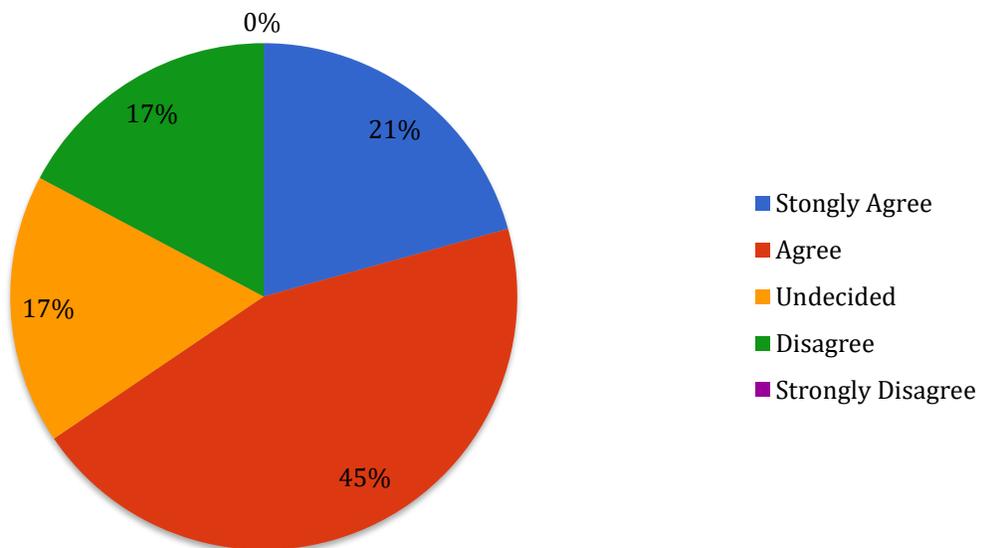
**Figure 9. I like using technology in the classroom.**



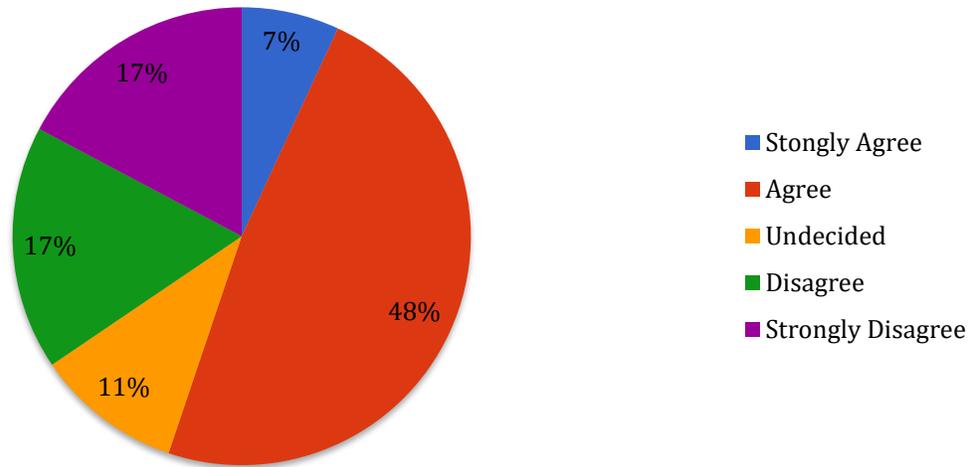
**Figure 10. I would like to continue using Edmodo in my language learning process.**



**Figure 11. I believe Edmodo helped my vocabulary acquisition.**



**Figure 12. I believe having the Edmodo site in only Spanish helped my second language acquisition.**



**Figure 13. I believe using Edmodo in only Spanish created a better environment to learn the second language.**

