ABSTRACT

USING TABLET-BASED INSTRUCTION TO IMPROVE COMMUNICATIVE RESPONSES IN THE WORLD LANGUAGE CLASSROOM

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Since students of this generation are being raised with technology at their fingertips, it is becoming more essential to find ways to implement tablet-based learning into classroom instruction. With new apps and websites appearing each day for use in the foreign language classroom, the purpose of this action research paper was to investigate the resources already available. In this action research project, I implemented different iPad applications and websites accessible on an iPad into my own classroom instruction in order to increase student communicative responses in terms of vocabulary usage, detail expansion, and fluidity. Results showed that extra practice utilizing the iPad outside of the classroom as well as instruction and practice of speaking skills benefited students’ skills and they showed improvement and confidence.

In this study, I used multiple data collection strategies such as a teacher diary with reflections, student audio recordings and video journals, and data analysis through a modified rubric on Schoology, our district’s course management system, to best reflect and analyze whether the integration of iPad resources can serve as an effective instructional tool. I then developed an action plan for how to improve teaching practices using tablet-based activities for future classes and language levels. This study showed that tablet-based instruction did improve
the students’ ability to elaborate in their responses and increase their fluidity during oral communication.
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USING TABLET-BASED INSTRUCTION TO IMPROVE COMMUNICATIVE RESPONSES
IN THE WORLD LANGUAGE CLASSROOM

BY

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CHAPTER 1: INTRODUCTION

With the integration of iPads into many school systems including mine, our language educators are employing innovative approaches to incorporate technology into the classroom while increasing communicative speaking skills. In August of 2014, every single student in my mid-sized school district in the Midwest received an iPad for instructional purposes. Teachers were encouraged to find innovative ways to incorporate tablet-based learning into their classroom to enhance instructional practices. Since speaking in a foreign language is one of the most difficult tasks for students (Dinçer, Yeşilyurt, & Göksu, 2012; Uso-Juan, & Martinez-Flor, 2008), I found myself researching ways to use the iPads for communicative purposes. If students could use their iPads to practice their vocabulary and reflect on their own oral language skills, then tablet-based instruction could be even more purposeful in- and outside of the language classroom.

In today’s fast-paced and technology-heavy society, my department has observed that students use oral communication to interact with their peers less and less frequently; instead, they often resort to texting or sending pictures. When engaging in interpersonal activities in class, my students often struggle to elicit responses in which they use varied vocabulary, elaborate, and respond in a fluid manner. Upon observing students talking to one another about their weekend, I discovered that students gave the bare minimum number of details, recycled the same vocabulary, and often struggled to complete a sentence without a good deal of hesitation. It also seemed to be a taxing assignment when I encouraged students to continue speaking and engage in an actual conversation. From extra prompting to sentence starters, trying to increase
my students’ communication skills was proving difficult. Uso-Juan and Martinez-Flor (2008) additionally found that communicative competence helped determine the success of students’ language learning (158). After examining some baseline data and discussing areas of oral difficulty with other teachers in my department, I decided to perform action research in order to examine methods and develop action plan cycles that could promote varied vocabulary as well as fluidity in student responses. Norton (2009) writes “Action research is implying a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out” (p. 52). Because speaking is a product of oral practice as well as concurrent development of other skills like listening (Alam & Uddin, 2013; Uso-Juan, & Martinez-Flor, 2008), I knew I needed to incorporate ways to engage my students and integrate other essential components of communication like listening or writing. Throughout the years, I have found many engaging tools like Duolingo and Lyricstraining.com that provide valuable input to my students. These technologies allowed the students to practice listening and writing skills in order to prepare them to produce the language orally. This study examined the impact of tablet-based instruction on improving communicative responses by students in their second and third year of Spanish study. The action research study’s effectiveness was gauged through a variety of evaluative methods such as data analysis, classroom observations, and journal reflections.

**Research Questions**

With the integration of iPads for every student, finding more ways to use the iPads in the classroom would afford students the opportunity to practice their speaking skills, obtain better fluidity, increase their vocabulary, self-assess, and utilize class time efficiently by speaking in
the target language and practicing other language skills. By assigning activities accessible on the iPad, I believe that this action research can help educators offer students alternative ways to develop vocabulary and communication skills as well as better their fluidity in oral responses.

The above hypothesis prompts the following research questions:

1. Will tablet-based instruction increase the use of vocabulary in communicative responses?

2. Can self-assessment and reflection aid in student awareness and improvement of communicative skills?

3. Will fluidity increase as students are exposed to more input and produce more output in the target language through the use of apps and other websites?
CHAPTER 2: LITERATURE REVIEW

Computed Assisted Language Learning (CALL) has been shown to encourage motivation, learner autonomy, satisfaction, and self-confidence (Cumming, 2008, p. 74). CALL through the use of iPads allows students to interact and receive feedback. With iPads, students can stop, rewind, pause, play and restart audio recordings and videos. Students can even share and evaluate these clips with classmates without the use of expensive programs. While teaching a language and especially communication skills, most educators have two main goals: accuracy and fluency, but many students struggle to achieve these goals without the proper vocabulary and skills (Binder, Haughton, & Bateman, 2002; Chu, 2011; Dinçer, Yeşilyurt, & Göksu, 2012; Kellermeier, 2010; Uso-Juan, & Martinez-Flor, 2008). In addition, our teachers often found it difficult to provide effective and timely feedback to the students regarding their speaking skills.

One way to help students achieve accuracy and fluency is through video recordings. Diyaab’s (2013) research study examined the link between video recordings and student performance outcomes. Researchers discovered that video provides simultaneous audio and video input for observers as well as more complete and contextualized conversations. Personal recordings also permitted students to evaluate themselves and provided the opportunity to re-record and refine their attempts. This autonomy led to reduced speaking anxiety. Speaking anxiety has been a major predictor of success or failure on oral exams in my classroom and has been supported by research studies (Dinçer, Yeşilyurt, & Göksu, 2012; Krashen, 1987). With less anxiety, students actually took on more personal responsibility because it gave the students time to self-assess (Diyyab, 2013, p. 23). Alam and Uddin’s (2013) research also showed that
when students were given opportunities to practice the oral language, their fear of being wrong was reduced and their speaking improved (p. 17). Eventually, more opportunities to practice and a lower affective filter could lead to more motivation in the classroom as students gain more confidence (Krashen, 1987). Therefore, using CALL through the use of iPads to put more emphasis on student-centered learning and reflection can allow students to refine their utterances with less anxiety.

While research has shown that recordings are an effective way to increase communicative skills, educators must now find effective ways for students to practice. One method to help develop confidence and make learning more enjoyable is the use of oral journals, an idea presented by Mir (2006). Normally, writers use journals to freely express thoughts, emotions, ideas, and opinions. Sharing orally with teachers allows students to communicate in a more personal way without the fear of ridicule from their classmates. Accordingly, audio recordings or video journals are effective ways to assess students’ speaking abilities. In a 2013 study focusing on Chinese students learning English, “anxiety turned out to be a powerful and negative predictor for the students’ performance in English” (Liu, p. 10). This research found that building a relaxing classroom environment and providing the opportunity to use the language were conducive to risk taking in the target language. Students could share stories about their weekend or give their opinion about a topic that interested them. The more interesting, open-ended, and important the topics are, the more unique and natural the responses from the students will be. As discussed by Chang (2011), various studies have shown that the best way to practice speaking skills is to combine Task Based Teaching and Learning with the Grammar Translation Method (as cited in Alam & Uddin, 2013). Taking this research into consideration, it is to the
students’ benefit to focus on actual conversations that might take place and ask possible questions. While authentic conversations allow for students to practice real situations, it is also essential for students to be able to speak in a less threatening environment or to allow them the opportunity to revise their speech. Having a balance of authentic as well as recorded and revised practice provides students with a variety of opportunities. For example, by encouraging students to have conversations in class, the responsibility for learning falls on each student to create and continue dialogue. By practicing alone or by recording utterances, a less threatening environment is created.

Videos are another useful tool to ensure that students are not reading from a script, which is why upper level students in my action research study submitted video journals, an idea based on the original 2006 study by Mir. The other benefit of the video journal is that it provides students with the opportunity to revise and self-correct. Because this practice aims to provide the students with speaking practice, grammatical accuracy should not be the main focus. In fact, these exercises help students gain confidence and fluency, defined as “the proper use of language without hesitation,” one of the exercise’s main goals (Alam & Uddin, 2013, p. 19). Since most of my students are focused on their grades, Mir’s basic solution of proposing a rubric based on task completion and effort was taken into account (2006). A rubric can therefore assess whether the students offer details, use varied vocabulary, and show fluidity in their responses rather than focus on grammar as the main component. Students should have access to this rubric to better understand the assignment and to help mold their own growth and development. Self-evaluation on a rubric is also seen as one of the most effective teaching-learning approaches and is easily
accomplished with the use of video recordings on the iPads in a classroom or at home (Castaneda, 2011).

In addition to extra speaking practice, the self-analysis process is also a key component to enhancing a student’s skills. In Castaneda’s study, students listened to their classmates' recordings and then analyzed them in class. This type of assessment aligned with Castaneda’s (2011) research on self-evaluation in which she showed that self-observation and evaluation helped students become critical reviewers of their own tasks (p. 485). In the classroom, students can listen to their classmates’ recordings, and it can encourage students to improve their oral proficiency, too. In Castaneda’s study, this training benefited the students and showed them successful communication strategies. Castaneda’s (2011) research also showed that the students recorded themselves several times, compelling learners to repeat and recycle speech. Consequently, these students increased their fluency, complexity, and accuracy of oral production over time, which was the exact result I hoped to achieve (p. 494). Furthermore, students improved their dialogues when they used self-correction and realized on their own the errors they had made (Alam & Uddin, 2013). They then corrected themselves, which played a key role in self-directed learning (p. 28).

Finally, student engagement and retention go hand in hand when it comes to language learning. According to a study called “Student Perceptions of Classroom Engagement and Learning” on university students, students who reported being highly engaged while using iPads reported a higher level of learning (Diemer, Fernandez, & Streepey, 2012). By having my students complete more vocabulary activities on the iPad through Duolingo and Lyricstraining, I hoped to keep them engaged and promote learning. Based on Magnuson’s (2014) research,
students found Duolingo to be a helpful tool in increasing their knowledge of a language (p. 18). However, finding ways to grade and translate the task completion of Duolingo into a letter grade is a more difficult task (p. 17). Magnuson also discovered that intrinsic motivation was a characteristic that was challenging to teach and for the students to obtain (p. 6). Without fundamental inherent motivation, it is essential for instructors to find ways to engage students and enhance their language learning process.

Acquiring new knowledge in the form of games and software can make learning new skills and languages fun and exciting. In fact, a Brouse, Basch, and Chow (2011) study found that educational games and software made acquiring a new language fun and engaging as well as measuring progress, which then provided insight to the teacher (p. 31). In the same participant survey, the results showed that participants felt as if technology played an important part in learning (p. 32). In addition, students can learn on their own time, moving at their own pace, and review lessons in which they are less confident (p. 32). Magnuson also found that students enjoyed being able to move forward at their own pace in Duolingo (p. 7). The autonomy in learning allows students to do work when it is convenient for them, thus increasing their level of engagement. Moreover, distributed practice throughout the week was shown to yield the best results based on a Duolingo report by Vesselinov and Grego (2012), which could encourage students to be autonomous and complete the activities at their own convenience. With more engagement the goal is for students to acquire more vocabulary or to have their language bank more accessible during speaking assessments, consequently helping them to be more fluid in their responses, too. The input provided through Duolingo and lyricstraining.com prepares students to produce the language by engaging them in practice activities (Alam & Uddin, 2013).
Through the use of tablet-based instruction, students learn more independently as they engage with technology.
CHAPTER 3: METHODOLOGY

Overview of Research Design

This quantitative and qualitative action research study examined the use of tablet-based instruction and the effects on students’ communicative responses. At the start of the 2014-2015 academic year, a district-wide initiative was instituted to promote the use of technology within the classroom. Students were taught to utilize their iPads primarily for homework completion and for note taking. All digital assignments were submitted to a course management system used district-wide called Schoology. Schoology is a learning management system designed to look like and contain some functions of popular social media, assisting adaptation by the student body. This Web 2.0 tool also offers transparency of certain content to the students’ parents, such as grades and teacher updates. Moreover, this platform provides teachers and students a method by which they can communicate with one another on discussion boards, quizzes, and assignments. Students can easily access and download files to their iPads, edit and submit assignments, and see important calendar dates. Through the online gradebook and integrated data analysis system, both teachers and students can track progress, see trends, and analyze grades. Students can even send in further revisions of assignments that are automatically uploaded with a timestamp. Additionally, this system has its own audio and video recording device function, eliminating the need for a different app or extra downloads. Schoology is user-friendly both for the teacher and student and both teachers and students have a great deal of familiarity and comfort with the system, making it an ideal choice for this study.
Since the iPads were integrated into every classroom at the start of the 2014-2015 academic year, students had the access and the comfort level needed to use most features by the time of this study. After some additional training and instruction, students easily became comfortable with the audio recording and video recording submissions. Students received guided instructions from the teacher explaining the best utilization of the audio recording and video recording features and how to pause, play and submit assignments. The teacher also ensured full comprehension of the program by the students through continued hands-on instruction and individual attention.

Overview of Action Research Design

Within the qualitative research design, action research was chosen for this study as a way to evaluate instructional practices and develop new ideas. Action research design (ARD) puts teachers in charge of their own research on a small-scale investigation in order to improve classroom instruction and enhance the development of curriculum (Griffee, 2012). For this study, I realized that my students’ responses lacked elaboration and fluidity and I wanted to use tablet-based activities to see if they could increase their communication skills. Rather than a traditional study, action research takes a more dynamic approach by collecting data and analyzing it to enhance future practice (p.110). ARD also contains structured reflection which starts by having an initial awareness of an issue and then by exploring it. I was aware that speaking was a difficult skill for my students, and I also recognized that the iPads were not being utilized to their fullest potential in the world language classroom. Then, after the initial questioning, it is the teacher-researcher’s role to create a plan, carry out the plan, and then evaluate and report on the findings (p. 112). There is no prescribed number of steps in this type of research and the
investigation is not normally finalized at the end of a study as in formal research. Rather, ARD lends itself to a continued search for better instructional practices, which is exactly what I strive to achieve.

Participants

The age of the study participants ranged from 14 to 18 years and they were enrolled in Spanish II and III at a large Midwest suburban high school. Because my Spanish III classroom only contained a small sample size of 18 students, my two Spanish II sections were also included. These two sections of Spanish II were also very different from one another. My 3rd hour section contained many students in lower level math and English classes while many of my 5th hour students were enrolled in upper level math and English classes. This differentiation in class selection seemed to have some correlation to the success of my students, as the 5th hour students’ grades always seemed to be higher, no matter the task. Therefore, a total of 71 students from these three different classes were studied.

Procedures and Implementation Plan

After piloting the unit 2.1 oral exam with Spanish II students speaking simultaneously, students were encouraged to have their own set of earbuds to not only block out sound but to increase clarity in recordings. Earbuds also helped students to focus on their own utterances rather than listening to what their peers were saying. Our normal recordings generally took place every other Monday, or on the first day of the week, after some in-class speaking practice. The prompt remained the same each week with slight variations based on weather (snow days) or extended breaks. The students were accustomed to this ritual with the only difference from their usual class routine being a final recording after some practice. Through this study, recording also
became common and part of the normal routine. After experimenting with different recording
lengths, each recording lasted approximately 30 to 60 seconds, depending on the level of
Spanish. For example, Spanish II students were encouraged to speak for 30 to 45 seconds while
Spanish III students were told to speak for 45 to 60 seconds. The rubric and data were accessible
to all students which helped to create low inference data and a reliable system.

Instrumentation

After piloting this study using the district speaking rubric and discovering that it had too
many standards for a study of this nature, I narrowed down the rubric to include the use of two
categories or standards in order to better focus my data. The first standard included the use of
varied level-appropriate vocabulary as well as details and the ability to elaborate. These were
grouped together into one category since vocabulary usage helped to dictate whether a student
could expand on each topic. The second standard focused on fluidity based on a student’s
hesitation and pacing. The wording on the rubric was then edited to fit the needs of this study
and put into the district-wide course management system (CMS) called Schoology. This system
allowed for results to be analyzed by student, class, or by each standard. It also allowed the
students to see a visual representation of their score through colors when they met the standard of
achieving 3 out of 4 points or exceeding the standard by receiving 3.5 out of 4 points. Each time
this modified rubric was used for an oral assessment, these standards were visible on the iPad
screen before and after the recording, providing the students with a clear goal for each of their
recordings. The rubric used in this study assessed whether the students offered details, used
varied vocabulary, and showed fluidity in their responses and therefore did not focus on
grammar as its main component. Students had access to this rubric to better understand the assignment and to help them grow and develop. See Appendix A for the rubric.

Schoology’s grading and record keeping program was chosen over that of Mastery Manager, a web-based assessment and analysis tool used in the district, due to its accessibility and visibility to both students and teacher. Mastery Manager has been integrated into assessments and data analysis longer than Schoology and is used for all data collection in our district. It is a very intricate program that our district encourages instructors to use, so considerable amount of time was spent discussing the pros and cons of the two programs before a decision was made. Visually, Schoology is very appealing even if it does not currently allow for a downloadable spreadsheet nor does it transfer data automatically to the actual gradebook used throughout the district like Mastery Manager can do. A major benefit of Schoology is that each student recording and subsequent grade was automatically recorded in its gradebook, so students had access to their personal data and the teacher had access to the progress of each student. Schoology also offers the best adjustable mastery and student objectives reports, which was why it was finally chosen over Mastery Manager. Students’ success was also easily tracked in terms of hitting a target goal. For the purpose of this study, comprehensibility of students’ responses was not recorded or graded but was mentioned in the comment area of the rubric for personal viewing. Once all data was collected through Schoology, a paired t-test was run using Prism for further analysis of data. Therefore, the quantitative measurement instrument for this study is a modified speaking rubric that was analyzed through Schoology’s gradebook analysis system and a paired t-test using Prism.
The qualitative measurement for this study was obtained through journaling in the form of a teacher diary and observation notes. This descriptive data consisted of notes taken after each major speaking event or activity as well as my reflections and observations during classroom activities and assessments. Journaling was done using Google Docs so it could be easily accessed during class on my iPad or on a computer. When the iPad was in use or not accessible, a paper journal was then used and later transferred into the Google Doc. While this data collection instrument is very time consuming and labor intensive, it provides more detailed accounts of events for later reference and reflection (Griffee, 2012). Since I was able to write about what occurred during class as well as how I felt about it, my in-class observations and subsequent journaling provided credibility to my findings (p. 190).

To collect the recordings, students primarily used their individual school-issued iPads due to their accessibility and ease of use. For all audio recordings, students used the Schoology audio recording function and for all video journals, the students used the built in iPad software. In some instances of a misplaced or dead iPad, a student might have recorded using the Schoology app on their phone. Creating a video journal or audio recording involved minimal steps as the students recorded, paused, and saved their work. While another program like VoiceRecord Pro offered more features like configurable sound quality and the ability to edit, trim, and convert audio files, I sought simplicity and ease of use for both my students and myself. Based on pilot recordings and discussions with other teachers, Schoology’s program proved to be just as effective without needing an additional download. In addition, students were able to see a small timer in Schoology, which helped them to gauge the length of their utterances. While length of recordings was not a measurement of grading, it did aid in self-analysis as students realized how
much they were saying during a specific amount of time. For some students, the timer represented a visual cue that they needed to provide more details and elaboration in their responses.

Breakdown and Implementation of Components

In order to increase the impact of tablet-based instruction, students utilized different apps and websites such as Lyricstraining.com, Duolingo, WordReference, and the audio recording program on Schoology to increase vocabulary usage. See Appendix B for a more detailed description of the websites and apps used in this study. Once the apps and websites were chosen, I had to decide how to assign different tasks of utilizing these resources for homework, so that my students would complete them.

After reading two different reports on the effectiveness of Duolingo as well as teaching with Duolingo (Vesselinov, & Grego, 2012; Magnuson, 2014), I started consistently using Duolingo in my classroom. Duolingo is a language learning program that allows individuals to progress at their own pace and has recently launched a teacher dashboard to track students. While this feature seemed helpful, I then had to figure out an appropriate number of lessons and levels to assign each week to the students and find a way to track the students’ progress fairly. Ultimately, when Duolingo went through a platform design change partway through the quarter, it became easier to track student activity. Based on Magnuson’s (2014) research, inputting task completion into a gradebook needed to be considered (p. 17). Consequently, I decided to assign a minimum of three lessons each week that needed to be completed over the course of two days or more. Each lesson helped students to gain levels, or skills as they are called on Duolingo. Since some skills, like that of Clothing, consisted of two lessons while other skills, like that of Past
Tense Verbs, consisted of ten lessons, it was most fair to assign lessons rather than skills. Each lesson took students about five minutes and consisted of about 18 activities. These activities ranged from listening, speaking, translating, and writing to rewording and typing sentences. I chose to assign three lessons since there were usually four nights of assigned homework per week, encouraging my students to complete the lessons throughout the week rather than in one night.

The decision to promote Duolingo practice on/for more than one night was based on a Duolingo report by Vesselinov and Grego (2012) which found that distributed practice yielded the best results (p. 19). In fact, one of this study’s surveys found that students found Duolingo helpful but struggled to consistently practice unless the practice was formally assigned. This study also showed that the self-motivated students found the most success while using Duolingo. Since I teach at a very high performing public high school with demanding standards, I hoped to find the same results. With Duolingo, I liked that my upper level students were able to advance and move forward at their own pace, and for some students, this task encouraged intrinsic motivation, a characteristic that Magnuson (2014) also found to be challenging to obtain.

Throughout the study, I assigned three lessons at the start of the week. Most students completed or exceeded the minimum number of lessons for an easy completion homework grade.

In order to increase fluidity of speech, students used video journals, audio recordings, and in-class practice activities to self-correct and self-analyze. Most apps were used both in and outside of the classroom, while the video journals were done mostly at home in order to eliminate excess sound and distractions. Video journals provided me with a way to ensure the students did not read from a script and encouraged students to refine their attempts if dissatisfied.
with their recordings. Audio recordings produced a permanent record enabling the students to re-listen to audio recordings and the teacher to analyze details and transcribe the clips. By using class time to have students listen to their own recordings and grade themselves as well as listen to a classmate’s recording, students offered each other advice, realized their own errors, and discussed their audio recordings. After multiple recordings, I assigned a new type of homework. Students were required to listen to all their recordings, read all my comments, and submit a speaking goal to me. Many students wrote a goal directly based on one or more of my comments. For example, a few students said their goal was to speak more Spanish at home or to practice more at home by pretending to talk to a friend. Other students commented that they were going to practice their conjugations at home because they, too, noticed that it was affecting their fluidity when they were not sure how to conjugate. Another self-analysis technique I utilized came from Castaneda’s (2011) research in which students listened to a pre-selected student recording and discussed what the student did well and how the student could improve (p. 490). In my action research, my students listened to their classmates’ recordings because it had been shown to be a valuable tool, which encouraged my students to improve their oral proficiency, too. I played three recordings for the class with a different focus in mind for each one. In one recording, a student spoke very fluidly with some minor grammatical errors; while in another recording, a student self-corrected and used many good transition words. I attempted to play audio recordings of students not currently in class, but when that was not possible, I asked those specific students for permission first. In my classroom, the students discussed the strengths and weaknesses of the recordings and gained new ideas and vocabulary from listening to one another. In fact, they were able to see how one student spoke with some hesitation but used more
details and vocabulary better than a student who spoke too quickly and was not as comprehensible in both vocabulary and pronunciation, similar to Castaneda’s students (2011, p. 490). Hearing other students’ recordings provided the students with new ideas, strategies, and insight into how to better improve speaking ability. This type of training was made effective and efficient with the use of the iPads.

When not using iPads, classroom activities played an essential role in the development of oral communication skills. Since Alam and Uddin’s (2013) research supported pair and group work as an effective practice in the language classroom, I tried to involve my students in their learning and engage them in conversation or promote speaking among each other every day (p. 26). For this study, students spoke with each other face to face during practice and then communicated with the teacher one on one or through an audio recording in order to provide for the best analysis of each individual student’s abilities. With gentle reminders, my students learned to correct and aid in the language learning process of their classroom seat partners. My students also had to learn how to further promote communication by asking their partner for more details, so I often modeled this behavior and questioning techniques in the classroom. Between practicing with classmates and recordings, my students self-analyzed and practiced their fluidity daily.

Finally, to practice speaking, it is also essential to practice listening skills (Alam & Uddin, 2013). Since lyrics are a form of language play, and music can help students to remember important language functions, students engaged in lyricstraining.com, a website in which students listen to an authentic song and then type in the missing words that they hear. This site incorporates game-based learning by having students select a song based on difficulty and a level
of play in game mode, promoting a gamification of the learning environment. Students can also learn different words and phrases without much effort due to the relaxed and fun design of this website (Taylor, 2013). When lyricstraining.com was assigned as homework, I chose the song and the level for the students, usually trying to focus on clearly spoken words as well as specific vocabulary or grammar in the song. The assignment was to fill in all the beginner level word gaps in the lyrics and to take a final screenshot showing 100% completion and their total points. Monitoring how well they did on lyricstraining.com was more difficult, since lyrics could be looked up online and students completed these exercises outside of class time. The word count of word gaps varied for each song, as did the total number of possible points. To encourage game-based play, I added in another aspect of the assignment. Even if the students ran out of time to fill in the lyrics, they were told to continue playing and to take a screenshot of their final score showing their completion of the exercise. Additionally, to promote effort, the students were told to score at least 100 points, since it is possible to earn anywhere from 300 to 600 points for a given song. My hope for assigning this task was that the students would find the intrinsic motivation to complete the lyrics honestly and that they would want to “play” the lyrics game for homework or even when it was not assigned. In terms of grading, lyricstraining.com was done for completion of homework and was never entered into my actual gradebook, since it was more of an effort grade and did not reflect my students’ comprehension of the material. Because lyricstraining.com was also assigned less frequently as homework than other worksheet type

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1 Lyricstraining.com does not have a set number of points for each song. Points are determined by how fast missing words are typed, the level of the game mode, and by accuracy. There is no explanation on the website to justify the point system, but 100 points could be earned after 15 of 23 words were identified for most of the beginner level songs chosen.
assignments, I hoped that it would become a break from the normal worksheet or even Duolingo assignment.

Through audio recordings, extra vocabulary words, speaking, writing, and listening skills practice, I sought to provide resources to my students that would improve their communication skills. Whether timing themselves and receiving feedback on Schoology or through skill completion on Duolingo, my students began to practice their speaking skills in and out of the classroom a little more each week. Furthermore, they started to look up new words on WordReference that they wanted to use or that they had heard through Lyricstraining.com and use them in their recordings or even during writing tasks. Duolingo, Lyricstraining.com, and other activities provided valuable input and practice, which prepared the students to later produce the language.

Data Collection

Data was collected using a speaking rubric on Schoology through a pretest, formative tests, and a post-test as recorded speaking assessments during the spring semester of Spanish II and III. The formative assessments occurred through weekly recordings and other classroom activities. Since students were allowed to re-record video journals, these were only used for practice and student self-analysis and not for data collection purposes.

Recordings were done at the start of every other week and usually contained a retelling of the weekend or past events; topics the students should be able to discuss in detail. In total, the students made five audio recordings in Level II and seven audio recordings in level III. Students were encouraged to look up words they needed to know using the WordReference app, an online dictionary with translations, examples, idioms, and a user forum, in order to be able to talk about
their weekends in detail. Other audio recordings pertained more specifically to the unit we were studying and sometimes focused more on grammar topics such as reflexive verbs, in which students described their daily routines over the weekend. In another more unique assignment, students made a recording discussing which place or cultural event they would want to experience in Spain after hearing their classmates’ in-class presentations. For each recording, the students answered personal questions or offered personal opinions using vocabulary that we had been practicing throughout the year and the unit. Students were given a recommended length of each recording and all students began the recording at the same time in the classroom. When all students had finished speaking and had played back their recordings, the recordings were then automatically saved and uploaded upon clicking a check mark. All recordings were saved and stored in Schoology but could be downloaded individually, too. Each recording could be simultaneously played and scored either on a computer or on an iPad.

Data Analysis

The data points procured from both Schoology and the teacher journal were examined in depth. In particular, the teacher listened to each of the students’ pretest, formative tests, and post-test audio recordings twice and examined the speech sentence by sentence. The teacher then scored the students relative to their own level. The details and fluidity of each artifact were analyzed by the teacher and given a rubric score as well as additional private comments, viewable only by the student. Common errors, excellent submissions, and other good examples were noted in the teacher’s journaling document. Once themes and final scores had been established according to each of the speaking standards, it was possible for the evaluator to develop results and begin to analyze strengths and areas of weakness within the implementation
plan. Schoology’s gradebook automatically filtered all the recordings and created mastery percentages as well as charts separated by learning objectives. For these figures, mastery was defined as scoring at least a 3 out of 4 on the rubric one or more times.
CHAPTER 4: RESULTS

This study investigated one main hypothesis. The hypothesis presumed that tablet-based activities would effectively develop elaboration and fluency in oral communication. Results supported this hypothesis, as the activities provided guided practice in and out of the classroom and student scores did increase.

The results from each class indicated mastery achieved as well as whether expectations were met, exceeded or not met at all. For these figures, meeting the mastery standard was defined as scoring 3 out of 4 points on the rubric at least once. See Appendix A for the rubric. In the Schoology report, results could be altered to show the number of times mastery was met as well as the average of each student’s achievement in each category. The various figures from each class provide a greater understanding of the degree to which the students improved and provide a more holistic perspective to the data analysis. Appendix D provides averages of students’ recordings and indicates mastery for students that met or exceeded the standard at least two times for level II and three times for level III with a star. The percentage shown for each of these students represents the average of their scores and therefore may not indicate growth. From these figures, it is evident that at the Spanish II level, mastery of fluidity was harder to achieve with 14 of 51, or 27% of students achieving the standard at least twice. In Spanish III, 11 out of 18 students, or 61% of students achieved mastery. For the other speaking standard however, mastery percentages for the ability to provide details, vocabulary, and elaborate in responses were much higher. In level II, 66% of students met or exceeded expectations at least twice and in level III, 61% met or exceeded the standard. By the end of this study, the majority of students
were mastering elaboration and details on a more consistent basis which is represented visually by the stars in the figures.

Upon changing the Schoology mastery report settings, one can gain a different perspective regarding the percentage of students who achieved mastery by the end of the study. Overall, the majority of students met or exceeded the standard at least once by the end. Appendix E contains figures 4, 5, and 6, which shows the percentage of the students’ highest scores and whether they met mastery at least once. As is evident in figures 4, 5, and 6, that every student in the 5th and 8th hour class achieved mastery in elaboration and vocabulary. In the 3rd hour class, 26 out of 27 students achieved mastery in vocabulary and ability to use details. Furthermore, 81% of the students in the 3rd hour class achieved mastery in fluidity while over 92% in both the 5th and 8th hour class achieved fluency. A breakdown by level shows that 86% of the Spanish II students met or exceeded the standard at least once in fluency and 98% met or exceeded the standard at least once in ability to elaborate. In level III, 94% of students achieved mastery of fluency and 100% of them did so in vocabulary and elaboration. Because I only had one section of level III students, and no other teacher wanted to partake in this study, I do not have a comparison group; however, based on my observations and discussions with the other level III teachers who did not use tablet-based instruction, I believe that my students greatly improved and surpassed the language skills of their peers in other classes.

In order to determine the statistical validity of the tablet-based instruction, t-tests were performed for each class and for each learning objective. Once all data were collected, they were imported to an excel document and entered into Prism, a statistical program capable of performing basic statistical tests. The data were analyzed with paired t-tests. Overall paired t-
tests revealed a statistically significant increase between tablet-based instruction and improvement in student communicative skills. Results are summarized below.

Overall, there was a statistically significant improvement between the students’ initial fluidity and elaboration scores and their scores in their final recordings ($p < .05$). Students in 3rd, 5th, and 8th hour using tablet-based instruction showed improved scores in both fluidity and ability to elaborate by the end of the semester (3rd hour $= p < .05$, 5th hour $= p < .05$, 8th hour = $p < .05$). The statistically significant difference between the students’ initial fluidity scores and their scores in their final recordings was $t (68) = 11.94$, $p < .0001$. Similarly, there was a statistically significant difference between the students’ initial elaboration scores and their scores in their final recordings, $t (68) = 12.50$, $p < .0001$ (See Figures 1 and 2). When broken down per recording, there is a median score increase in both learning objectives from the first to last recording for all three classes. Figure 3 shows how the 3rd hour class increased their median elaboration and vocabulary score from 50% to 87.5% and increased their fluidity from 62.5% to 87.5%. Figure 4 shows the increased median elaboration and vocabulary score from 75% to 87.5% and increased fluidity from 62.5% to 87.5% for the 5th hour class. Finally, the 8th hour class increased their median elaboration and vocabulary score from 62.5% to 87.5% and also increased their fluidity from 62.5% to 87.5% as seen in Figure 5.
Figure 1. Paired t-test graph of fluidity scores.

Figure 2. Paired t-test graph of vocabulary scores.
Figure 3. 3rd hour box plot of audio recording learning objective scores.

Figure 4. 5th hour box plot of audio recording learning objective scores.
Individual samples were also studied to investigate the type of progress made and the impact of the activities. One of the research questions was whether vocabulary would increase through tablet-based instruction. The results from the study indicated that assigned practice increased the quality of student responses. For example, student number seven from my 5th hour Spanish II class scored 25 percentage points for vocabulary and details. After implementing tablet-based instruction, his vocabulary and detail percentage rose above 87% for his last recordings. Figure 6 shows a progression of his percentages with the final recording being on the far left. In this student’s first recording, this student gave a one sentence response in answering
what he did over the weekend:

Student seven: Durante el fin de semana yo jugo...jugué basketball [sic] con mis amigos.

(February 6, 2015)

‘During the weekend, I juice...played basketball with my friends.’

However, by his final recordings, he had developed his vocabulary and ability to elaborate and expand on some of the activities he mentioned. Below is his second to last recording, Grabación 4 (Recording 4), in which the prompt had remained the same.

Student seven: Durante el fin de semana, mi mamá y yo fuimos al dentist porque yo necesito limpar los dientes. Luego, hace la tarea y lee Julius Cesar. Es aburrido...

Finalmente, mi familia y yo miramos por los huevos [sic] (April 6, 2015).

‘During the weekend, my mom and I went to the dentist because I need to clean my teeth. Later, I does homework and reads Julius Cesar. It’s boring. Finally, my family and I watched for eggs.’

Figure 6. Spanish II 5th hour Student #7’s progress chart read right to left.
This student demonstrated that he could now give reasons for why he went to the dentist and also described the book he was reading for class. Finally, he paused after discussing his homework but then decided he wanted to add one more detail about his weekend, attempting to say that he and his family went looking for Easter eggs. While this student did have some grammatical and past tense errors, he demonstrated that he could elaborate more and was aware that he needed to provide more details.

By the end of the semester, most students had shown an improvement in both fluidity and ability to elaborate and were aware of their progress. In end of the year evaluations for the teacher, one student stated that he felt most proud when he was able to do well on the last recording while another Spanish III student stated that his favorite part of the year was completing the iPad activities like the video journals because he realized how much he learned and improved while doing them. While these evaluations were not geared towards this study, it was interesting to see how students had commented on the recordings. Another student claimed she felt frustrated when doing audio recordings because she would listen to them and hear her hesitation. Ironically, this student was 5th hour student number 19 who improved by almost 50 percentage points through the course of the semester. From looking at her results in Figure 7, it appears that her frustration and self-analysis led to noticeable improvement in both standards. When student number 19 did her recording for the semester final exam, which was not part of this study, she spoke with fluidity and elaboration, once again demonstrating mastery of these skills.
Observations

In terms of ability to elaborate and provide more detailed responses, students began to speak and write with more details and more vocabulary in their responses immediately after the implementation of the assigned tablet-based activities. For some students, it even became a game to see who could write the longest and most detail-filled sentence. When writing during practice or for an assessment, students often asked for clarification as to whether I wanted details, complete sentences or short answers because they were actually eager to write more. During speaking practice or other activities, many students took out their iPads to time themselves to see how long they could speak. In addition, they began to offer each other suggestions, feedback, and further questions to help their classmates. After the final recording for this study had been completed, students requested that their semester final exam be done through Schoology on the iPads because they could then listen to themselves and estimate how well they had done, since generally itemized final exam scores are not revealed.

Self-reflection was another research question addressed, and my students wrote and
submitted goals for themselves. However, they also showed me by example how much they cared about these goals. One student asked for me to listen to her recording with her in order to receive more clarification on how she scored. Another student wrote in the end of the year teacher evaluation form about how he felt proud of himself for achieving his goal.

Observations of my students’ fluency showed that the assigned iPad activities were valuable. During classroom competitions, students began to defend their teams or themselves in the target language and could think more quickly on their feet. During class, students began to tell more stories about their weekend. Finally, the recommended speaking time no longer elicited a groan or scared faces. In fact, most students spoke for the entire time or spoke past the recommended time but with fluid and detailed responses rather than pauses.

Summary of Results

Overall, the quantitative and qualitative results from observations and data suggest the tablet-based instruction successfully fulfilled most of the research questions:

1. Will tablet-based instruction increase the use of vocabulary in communicative responses?
2. Can self-assessment and reflection aid in student awareness and improvement of communicative skills?
3. Will fluidity increase as students are exposed to more input and produce more output in the target language through the use of apps and other websites?

Assigned tablet-based practice and student reflections were necessary components of this research, and the focus on the standards was seen within the classroom as an important goal. Within the implementation itself, the some students disliked having their utterances recorded but
used these recordings effectively for self-assessment and saw their value. The students set goals for themselves, and through fluency and vocabulary practice, most students improved by the end of the study.
CHAPTER 5: DISCUSSION

Overview

This study set out to examine whether tablet-based instruction could effectively improve communicative skills; especially elaboration and fluidity. Through iPad apps and websites, students practiced their communicative language skills and completed multiple audio recordings. Both classroom observations and data showed that students improved their vocabulary usage, ability to elaborate, and their fluidity. Students also learned strategies for self-assessment. The first section of this chapter will include a discussion of the major findings. This will be followed by a section discussing ideas for improvement, a review of limitations, and implications for future research and instructional practice.

Major Findings

Research Question 1: Will tablet-based instruction increase the use of vocabulary in communicative responses?

In answering whether tablet-based instruction can increase the use of vocabulary in communicative responses, the results indicated that students varied vocabulary and elaborated more in their responses at the end of the study. The iPad activities encouraged students to not only look up unknown words but to also give more detailed responses. When analyzing student reactions, the feedback revealed that the students liked recording by the end of the study because they could see how much they were improving and were motivated to achieve a goal. Students were also able to see their grades and comments, which was a useful self-assessment tool.
Research Question 2: Can self-assessment and reflection aid in student awareness and improvement of communicative skills?

As students became more aware of their performance, they worked in and out of the classroom to improve, which suggests that self-reflection does improve students’ awareness and improvement. Furthermore, replaying audio recordings and receiving feedback allowed students to reflect without the fear of ridicule or a bad grade. A learning environment with less anxiety could have contributed to the improvement of responses supporting the conclusions of Diyyab (2013), as students took on more personal responsibility when given time to reflect (p. 23). Alam and Uddin’s (2013) research indicated that practice opportunities and a lower affective filter could improve communicative responses (p. 17). Based on my classroom observations, the students’ smiles, eagerness to record, and goals resulted in improved responses in a low-stress environment.

Research Question 3: Will fluidity increase as students are exposed to more input and produce more output in the target language through the use of apps and other websites?

Finally, through exposure to more input in the target language, the students did successfully increase their fluidity. While some students chose not to do the assigned homework, they were developing the skills necessary to improve their fluidity by attending class each day. Because the development of proficiency depends on the “automization of processes that are first mastered by conscious effort” (Little, 1997, p. 3), learning strategies to promote more fluid responses could have resulted in the desired outcome just as much as the selected input and output activities. Little (1997) notes that it is a risk to devote classroom time to strategy training rather than language learning; however, in having my students practice through a variety of activities at home, I was able to utilize classroom time to complete the audio recordings and
communicate in a more authentic setting. By having students listen to their own recordings, students identified their own errors and discussed strategies. These practices led to growth in vocabulary and fluency. In addition, by listening to other classmates, students also gained the consequential knowledge of grammatical rules. By examining the results of the three classes, it appears that the activities and strategies did help students to improve.

Suggestions for Improvement

Based on the results and observations, there are some suggested improvements to increase the effectiveness of the implementation program. At the time of this study, the students’ homework was not normally counted for a grade due to a district grading theory in which grades should reflect performance rather than behavior and effort. To increase participation, Duolingo was initially awarded a homework grade and entered into the gradebook. As the semesters continued, I eventually took away the grade in hopes that the students would continue practicing without the need to have incentives. However, grades proved to be a motivator for some students and not for others. To enhance the analysis of this study, it would be best to find a better way to track homework completion of the assigned tasks and compare student growth to activity completion. Since Duolingo went through a platform design change midway through the study, it was challenging to find trustworthy data on homework completion. In addition, Duolingo’s customer service took two months to respond to a helpdesk ticket regarding a student whose data was not appearing on my dashboard. Another idea to handle the issue of homework completion could be to create a control group out of the students who refuse to do their homework and activities consistently or students who do not complete activities; however, these students also tend to be students who care less about their progress and performance. Another idea is to create a control group based on units. Students could use tablet-based instruction for one unit and then
not for the next one. Either way, an ungraded record log in Schoology or through the district gradebook could potentially provide better statistics of homework completion.

Another way to better analyze data would be through a student attitude and effort survey to find out which students consciously tried to improve. Based on Diyyab’s (2013) research on learner responsibility, it would be interesting to study the effort of the students and compare it to their outcomes, since students took on more personal responsibility when given time to reflect (p. 23). A simple survey could be done through Schoology or through Google Docs with students rating themselves on how much they tried and whether they completed the assigned tasks each week. Then, in a future study, the groups could be split into a group that completes homework consistently using tablet-based activities versus a control group that did not complete homework.

Increasing Validity

Because the teacher was also the evaluator in this action research study, this study’s data would have been more valid by using a teacher’s assistant or volunteer teacher to help code the data. As the observer-participant, I had the advantage of being closer to my classroom, but because I was the teacher, I may have been biased in finding the desired improved results (Griffee, 2012). Having a rubric with more specific language would be one way to increase the validity of my results. A TA would also be able to validate the ratings initially given as well as offer additional feedback to the students. This would provide inter-rater reliability aiding in the students’ improvement, too. With another evaluator, each recording would have two perspectives and both evaluator and teacher could discuss and provide feedback to the students. Feedback could also be given to the students much faster if another listener was involved.

Limitations

There are several limitations to the study that should be noted. First, utilizing Schoology
was a useful and very visual tool for analysis but did not allow for easily downloadable results. In addition, the audio recording program relied on the school’s Wi-Fi, which sometimes went down unexpectedly or even crashed during or after a recording. Furthermore, by using Schoology, all data and recordings remain in the program. At the time of this study, the data reports could not be downloaded and each audio recording had to be downloaded individually to be saved for future use. In order to better analyze the data, it would be best to be able to manipulate and evaluate the results in a multitude of ways; however, the only adjustable mastery measures on Schoology were the average and the highest percentage achieved as seen in Appendices D and E. A more detailed statistical analysis of the data could have revealed other trends, such as which method of teaching was most effective, if certain levels of students utilized the technological tools more effectively, or if improvements were actually related to the tablet-based activities utilized. Moreover, Schoology’s courses automatically archive and erase all data at the end of the term. In foreseeing this shortcoming, I did select that my courses continue through the summer session in order to save my data. Finally, having a control group would have provided a better comparison of the effects of tablet-based instruction on communication skills.

Some potential confounding variables that should be considered are the students’ education levels, parents’ income levels, attitudes towards school and grades, group dynamics, teacher’s instructional style, and other outside factors like extracurricular activities or access to Wi-Fi. In addition, it was difficult to effectively track which students were completing activities like Duolingo or LyricsTraining.com because these activities were done at home and away from supervision. Another variable that might have confounded the results was evaluator bias. All recordings had the students’ names, so it was difficult to not think about each student individually and whether that student had improved. Finally, since students did the recordings in
class, some students mentioned that they tended to stop speaking because they did not want to be the last one done and have other students listen to them. Therefore, anxiety of peer perceptions might have caused some students to speak differently than they would if they had been at home.

Finally, one other major limitation would be the length of the study. During this study, the students completed five audio recordings in level II and seven in level III. Findings might have been different or statistical links stronger if the students had been evaluated over the course of an entire school year. The evaluator could then truly gain a sense of understanding of the effectiveness of the activities, since most students were just achieving mastery by the end of my study.

In summary, the results of this study should be evaluated with these limitations in mind. Additional research could help provide insight into learners’ attitudes toward school and grades as well as more consistent data over a longer period of time. Furthermore, a second evaluator could validate and provide more detailed feedback to the students to aid in their self-assessment and awareness. Further research could also eliminate (or control for) some of the potential confounding variables and provide better connections for the data. Finally, it would be best to replicate this study once updates to the data evaluation system in Schoology have been completed, allowing researchers the ability to save, download, and manipulate data.

Implications for Future Research

Future research could study long-term effects of tablet-based instruction as well as its effects on writing skills and speaking skills. Based on my observations, students began to write more detailed sentences, but a future study could examine whether the extra awareness to elaboration also carried over into writing skills. In addition, determining how much time outside of class was devoted to the actual practice of speaking skills or rehearsing for the recordings
might provide additional understanding of the success rate. Future studies could explore whether students rehearsed ahead of time because they were motivated by a grade or by achievement.

Another focus of a future study could be whether the recording device or timer had any effects on the students’ performances. Many students showed general excitement that they could speak for longer than ten and eventually even twenty seconds; however, comparing timed to untimed students could potentially deliver different findings. Measuring other components of the recording device and environment is also critical to future research.

Implications for Instructional Practice

In a world language classroom, knowing the best practices for tablet-based activities can be beneficial for both students and teachers. Through this study, it was evident that iPad activities increased self-awareness, encouraged goal setting, provided feedback, and did have a positive effect on the students’ performance. Since self-evaluation proved to be a helpful tool, it will be essential for teachers to find activities in which students can see their growth and improve. Completing Duolingo each week provided students with a sense of completion as they progressed through the levels. Since grades are not a motivator for all students, teachers should keep in mind that growth is not always marked with a letter in the gradebook.

Another practice that should be studied more is that of consistency and routine practice. My students no longer needed a Monday prompt by the end of the year to know that we were going to talk about our weekends. In addition, many arrived in the classroom already having looked up a new vocabulary word in order to discuss their weekend activities. The consistency of this weekly practice proved to be a strong motivator and key component, in that the students realized that their recordings were usually a retelling of their weekend events and that they were going to occur whether or not they liked the activity. In knowing the goal ahead of time, students
also arrived to class more prepared. Finally, the consistency and routine of organized practice through Duolingo or video and audio journals could potentially have a greater effect on language practice outside of the classroom. By creating familiarity and by grading students not on their grammar but rather on their elaboration and fluidity, students became more confident and proud of their work. Even the lowest level students were excited to see their feedback. In the future, I plan to implement Duolingo sooner and maybe also integrate a monthly video journal as part of the course to create consistency and provide feedback.

Continuation of Action Research

Based on the different suggestions for improvement, the second cycle of this action research would consist of splitting the students into two comparable groups. One group would consist of students who completed the tablet-based activities and another which would become a control group and would not complete activities outside of the classroom. The control group would consist of students who would not be assigned tablet-based activities. From those groups, a record log would be kept for the experimental group recording which activities and percentage of activities were completed. In addition, all students would take a more formalized pre and post-assessment to determine growth percentages. Finally, activities would be limited to one tablet-based activity, like video journaling, to enhance the validity of this activity and see whether video journals are truly the source of improvement. In future cycles, other activities could then be implemented and evaluated in the same way to determine the effectiveness of one activity over another.

Conclusion

The findings from this study contribute to the growing number of research studies being conducted on tablet-based activities in the world language classroom. Current research has
identified some of the benefits of tablet-based activities and the opportunities they offer for additional practice. In addition, iPad activities have been proven to be an accessible tool that offers feedback and helps create a low stress environment. However, many of the existing studies focus on iPad utilization in the classroom or on the effects of guided practice. Therefore, this study investigated how iPad based activities outside the classroom improved communication skills. Findings from this study suggest that the tablet-based instructional practices within this study have strong potential to be effective tools for increasing communicative speaking skills. Results revealed that the implementation of these activities provided beneficial practice, effective feedback, and self-awareness for the students. Although the qualitative analysis of this research proved the activities to be successful, more statistical research can still be done to assess the outcomes of long-term practice and student motivation factors. Completing further research will hopefully provide a better analysis of best instructional practices and other unique ways to implement various activities.
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APPENDIX A

SPEAKING RUBRIC USED FOR ORAL ASSESSMENTS
## APPENDIX A

### SPEAKING RUBRIC USED FOR ORAL ASSESSMENTS

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Grading Scale</th>
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<tr>
<td><strong>CLS 2</strong> Vocab/details/elaboration</td>
<td></td>
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<tr>
<td>Use of level appropriate vocabulary, variety of vocab, and details/elaboration</td>
<td>4 Excellent-Frequent attempts to elaborate, significant details</td>
</tr>
<tr>
<td><strong>CLS 5 Fluidity</strong> Pacing and hesitation</td>
<td>4 Excellent-Ease of speech, Little to no hesitation</td>
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</tbody>
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APPENDIX B

DESCRIPTION OF WEBSITES AND APPS
## DESCRIPTION OF WEBSITES AND APPS

<table>
<thead>
<tr>
<th>Website/App</th>
<th>Description</th>
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<tbody>
<tr>
<td>Lyricstraining.com</td>
<td>LyricsTraining.com offers a fun way for students to practice listening skills in a foreign language as well as a way to learn new vocabulary and expressions and reinforce grammar concepts by filling in missing words to popular song lyrics. It offers the opportunity to recognize sounds and words of a foreign language, whether you know the meaning of all the words or not. Finally, it helps students to memorize song lyrics as well as structures.</td>
</tr>
<tr>
<td>Duolingo</td>
<td>The Duolingo app and website contain a free language-learning platform with a built-in data driven lesson planning system that automatically finds a user’s strengths and weaknesses and adjusts accordingly. It has its own reward system by rewarding users for learning streaks, levels completed, and experience points. Its Duolingo for Schools subcomponent offers a way for teachers to view progress once students enroll in their class.</td>
</tr>
<tr>
<td>WordReference</td>
<td>WordReference is both a free bilingual dictionary app and website translating between English to many other languages, including Spanish. It offers translations for words, idioms, sayings, and slang while also providing a language forum to ask vocabulary related questions regarding language and grammar.</td>
</tr>
<tr>
<td>Schoology</td>
<td>Schoology is a course management system that provides teachers and</td>
</tr>
</tbody>
</table>
students an area to download assignments, communicate through private message and discussion boards, and take and grade quizzes and assignments. It is also a storage site for files and contains an editable calendar for events and due dates. Through the online gradebook and integrated data analysis system, both teachers and students can track progress, see trends, and analyze grades.
APPENDIX C

IRB DETERMINATION REVIEW
Determination Notice

Activity Does Not Meet the Definition of “Human Subjects Research”

14-May-2015
Ashley Soriano
Foreign Languages and Literatures

RE: Protocol # HS15-0170
“Using tablet-based instruction to improve communicative responses in the world language classroom”

Dear Ashley Soriano,

The above activity was reviewed on 14-May-2015. From the information that has been provided to the Office of Research Compliance, the proposed activity does not meet the definition of human subjects research, as defined in 45 CFR 46.102, and is not subject to oversight by the Institutional Review Board.

Research means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.

Human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains

(1) Data through intervention or interaction with the individual, or
(2) Identifiable private information.

Intervention includes both physical procedures by which data are gathered (for example, venipuncture) and manipulations of the subject or the subject’s environment that are performed for research purposes. Interaction includes communication or interpersonal contact between investigator and subject. Private information includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

If you have questions or need additional information, please contact the Office of Research Compliance at 815-753-8588.

Sincerely,
Jeanette Gommel
Office of Research Compliance
APPENDIX D

SCHOOL FIGURES 1, 2 AND 3
APPENDIX D

SCHOOLEGY FIGURES 1, 2 AND 3

Figure 1. Student Achievement Percentages of Mastery and Average, 3rd hour Spanish II.

Key: A green star means student achieved mastery (obtained mastery at least two times).

A light green box means student met expectations while a dark green box means the student exceeded expectations on average.

A red box means they did not meet expectations on average.
<table>
<thead>
<tr>
<th>Student Averages</th>
<th>CLS 2 Vocab/Details</th>
<th>CLS 5 Fluency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>80%</td>
<td>80%</td>
</tr>
<tr>
<td>2.</td>
<td>65%</td>
<td>72.5%</td>
</tr>
<tr>
<td>3.</td>
<td>75%</td>
<td>72.5%</td>
</tr>
<tr>
<td>4.</td>
<td>84.38%</td>
<td>84.38%</td>
</tr>
<tr>
<td>5.</td>
<td>75%</td>
<td>72.5%</td>
</tr>
<tr>
<td>6.</td>
<td>62.5%</td>
<td>52.5%</td>
</tr>
<tr>
<td>7.</td>
<td>62.5%</td>
<td>60%</td>
</tr>
<tr>
<td>8.</td>
<td>80%</td>
<td>60%</td>
</tr>
<tr>
<td>9.</td>
<td>72.5%</td>
<td>65%</td>
</tr>
<tr>
<td>10.</td>
<td>80%</td>
<td>72.5%</td>
</tr>
<tr>
<td>11.</td>
<td>70%</td>
<td>60%</td>
</tr>
<tr>
<td>12.</td>
<td>75%</td>
<td>77.5%</td>
</tr>
<tr>
<td>13.</td>
<td>80%</td>
<td>70%</td>
</tr>
<tr>
<td>14.</td>
<td>71.88%</td>
<td>53.13%</td>
</tr>
<tr>
<td>15.</td>
<td>62.5%</td>
<td>72.5%</td>
</tr>
<tr>
<td>16.</td>
<td>77.5%</td>
<td>75%</td>
</tr>
<tr>
<td>17.</td>
<td>82.5%</td>
<td>77.5%</td>
</tr>
<tr>
<td>18.</td>
<td>65%</td>
<td>70%</td>
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<tr>
<td>19.</td>
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<td>77.5%</td>
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<tr>
<td>20.</td>
<td>75%</td>
<td>72.5%</td>
</tr>
<tr>
<td>21.</td>
<td>82.5%</td>
<td>72.5%</td>
</tr>
<tr>
<td>22.</td>
<td>82.5%</td>
<td>75%</td>
</tr>
<tr>
<td>23.</td>
<td>75%</td>
<td>67.5%</td>
</tr>
<tr>
<td>24.</td>
<td>75%</td>
<td>67.5%</td>
</tr>
</tbody>
</table>

**Figure 2.** Student Achievement Percentages of Mastery and Average, 5th hour Spanish II.

**Key:** A green star means student achieved mastery (obtained mastery at least two times).

A light green box means student met expectations while a dark green box means the student exceeded expectations on average.

A red box means they did not meet expectations on average.
Table showing student achievement percentages for CLS 2 Vocabulary and CLS 5 Fluency.

Key: A green star means student achieved mastery (obtained mastery at least two times).

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A red box means they did not meet expectations on average.

Figure 3. Student Achievement Percentages of Mastery and Average, 8th hour Spanish III.
APPENDIX E

SCHOLOGY FIGURES 4, 5 AND 6
Figure 4. Student Achievement Percentages of Mastery and Highest Score, 3rd hour Spanish II.

Key: A green star means student achieved mastery (obtained mastery at least once).

A light green box means student met expectations while a dark green box means the student exceeded expectations on average.

A red box means they did not meet expectations on average.
<table>
<thead>
<tr>
<th>Student Averages</th>
<th>CLS 2 Vocab/Details</th>
<th>CLS 5 Fluidity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>91.15%</td>
<td>86.98%</td>
</tr>
<tr>
<td>1.</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>75%</td>
<td>62.5%</td>
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<tr>
<td>7.</td>
<td>87.5%</td>
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</tr>
<tr>
<td>8.</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td>87.5%</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>87.5%</td>
<td></td>
</tr>
</tbody>
</table>

Figure 5. Student Achievement Percentages of Mastery and Highest Score, 5th hour Spanish II.

**Key:** A green star means student achieved mastery (obtained mastery at least once).

A light green box means student met expectations while a dark green box means the student exceeded expectations on average.

A red box means they did not meet expectations on average.
Figure 6. Student Achievement Percentages of Mastery and Highest Score, 8th hour Spanish III.

**Key:** A green star means student achieved mastery (obtained mastery at least once).

A light green box means student met expectations while a dark green box means the student exceeded expectations on average.

A red box means they did not meet expectations on average.