Discussion

Prior to conducting the study, I believed that students would improve quiz scores and would be more motivated using the iTouch flashcards to practice vocabulary. However, my results showed that only half of my hypothesis was true. The latter half, that students would more motivated, was correct. Classroom observations clearly showed that students were engrossed in the iTouch technology, which kept off task behavior to a minimum. Also, according to the student surveys, they enjoyed using the iTouch flashcards and would even download them to their own personal iPod if they had one available.

For the student motivation, I found numerous correlations between other studies and my own. I saw the same results as the teachers in the Wight County study who stated that students were more on task and talked less while using the technology (Brown Garrow, 2009). I also observed results similar to the study of Browne and Culligan (2008) who stated that traditional paper flashcards provided many issues to students, including struggling to keep track of packs of flashcards. This was true in my study as well, where over the three days of paper flashcard use, an average of 13.6% percent of students were unable to practice because they did not have their flashcards with them in class.

The first half of my hypothesis, that student quiz scores would improve with iTouch flashcards, was proven untrue. The average scores on the quiz after students used the iTouch, was an entire grade lower than when they used the paper flashcards. I was very surprised to find this, although it did correlate with the study from Frigaard (2002) who found that using the lab to practice Spanish vocabulary did not impact student learning enough to utilize lab time for this purpose. In my study, using the iTouch negatively impacted student learning, so using extra time in class to get set up and explain how to use them was not a wise use of time.

*Limitations*

My study did have some limitations that may have affected quiz scores. The iTouches used in the study were a classroom set provided by the school for in class use only. Students were unable to take these home to practice their vocabulary. With the paper flashcards, students were able to take them home to practice, perhaps increasing their quiz scores.

Another limitation of this study was the teaching that followed the use of the flashcards. During the 3A unit, I was in the classroom using the flashcards with the students and followed flashcard use with more vocabulary practice. However, due to a medical leave during the 3B unit, it was a substitute, instead of me, who was in the classroom with the students before their quiz. The substitute may have followed flashcard use each day with different vocabulary activities, which may have affected quiz scores. I would like to try this study again in the spring semester when I will be in the classroom for both units.

Time is always a limitation in the classroom, as it was in my study. I was only able to compare results over two units. Continuing the study and using iTouch flashcards and paper flashcards for more units may provide more extensive results. I do believe the results of my study are significant, however, to show that even though students may be more motivated to use technology, their learning may not necessarily improve because of it. The study also only included 48 students from the fall semester of Spanish. Continuing the study into the spring semester and widening it to more Spanish I students may render different results.

Reflection

Overall, the action research process went smoothly for me. Since the beginning of the research corresponded with the beginning of the school year, it was very easy to get parent and student signatures and approval for the study. I received 100% of signatures back with very little extra effort.

One obstacle I did have was collaborating with my substitute in order to determine the days to use the iPod Touch in the classroom. In the future, I would prefer to do all of the teaching and planning for these units. Another obstacle that I needed to work out was using the iTouches in the classroom for the first time. The classroom set of iTouches were new to our school, so I needed to have a good check out procedure for students so I knew they would use their iPod responsibly and not take pictures, change settings, and so forth. This was also the first year that our school had WiFi, so having students log in on the first day of iPod use was a little tricky, since some logins did not work for students. Luckily, they were able to log on to the school network as guests, so they were still able to download the flashcards on the iTouches.

I was very surprised at the results of my study. I always assumed that if students were more motivated to study, they would perform better on the test. The results that students were more motivated with technology confirms my belief that technology is on the rise and students are more engaged and like using technology whenever they can get their hands on it. However, I assumed that motivation would equate to higher grades on the quizzes. I knew that students were unable to take home the iTouch to practice their flashcards, but I did not expect that to make a huge difference. A further question that I would add to the survey is “Did you use the paper flashcards to study at home?” As much as students hated making flashcards in class, their quiz results showed that they were useful and improved achievement. This really supports me having students create flashcards in class in the future.

Even though my students did not have improved quiz scores with the technology in class, I succeeded in that I used the iTouches for the first time with the students. I knew that many students have personal iTouches, but I believe using them in school gave them an awareness of the capabilities of the technology. There are many educational applications that can help students with school, but I feel that very few students use their iTouches for educational purposes. By bringing the iTouches into the classroom, I exposed students to another use of their iTouch and sparked their curiosity to see how else they can use the iTouch to further their education.

*Recommendations*

If I were to try this study again, I would use two classes; one to use the paper flashcards and one to use the iTouch flashcards, and I would track their quiz scores throughout the semester. Such a study may offer more generalizable results over a longer period of time. I would also make sure to be in the classroom teaching for both units, so I can confirm that students received the same instruction after flashcard use and before the quiz.

A further question that I have as a result of my study is if students writing the words on their paper flashcards made a difference to the learning of the words. On the paper flashcards, students had practice when they wrote the words to create the flashcards. However, the iTouch flashcards were already made and available for quick download, so students did not write those words to practice. As further research, I would design a study to see if writing the words affects quiz scores.

*Future Plan of Action*

This study has affected how I prepare students with vocabulary. My results showed that paper flashcards work. I usually had students who complained about making them, but I am glad to have support for them. To increase motivation, I plan to use a mixture of paper and iTouch flashcards within the same unit. If they make the flashcards to use at home, we can still use the iTouch in class and hopefully have good quiz scores and good motivation. I also want to continue using technology in the classroom, but now realize that vocabulary memorization may not be the best way to do so. I may be able to use technology in situations that affect students more, like communicating with other cultures or having students create movies about culture. Instead of spending valuable time with technology on vocabulary, I plan to focus on other parts of the curriculum.

I plan to share this study with my colleagues. As colleagues try to incorporate technology into their classrooms, especially the iTouch flashcards that are fairly easy to use in class, after seeing the results of my study, I believe there are better ways to use the iTouch rather than to learn vocabulary from flashcards. The iTouch has many educational applications that teachers can use and I would advise my colleagues to find uses other than flashcards since they do not seem to improve student achievement.

I also plan to share this study with my students. I want them to see the results of their quiz scores with paper flashcards and see what their insight is into why the quiz scores were lower after using the iTouch.

I do not plan to publish this report, but I would like to continue the research into the spring semester with more students using the recommendations that I have after doing this study. When I have more results that include more students and fewer limitations, I will think about publishing the study for others to compare their research to mine.

With technology use increasing in the world, it is important that our students are exposed to a wide range of educational experiences with technology. Even if students are more motivated by the technology use like they are with the iPod Touches, we, as educators, need to make sure we are providing students with experiences that will also increase student achievement.