Reflection

After analyzing my results I was surprised that I did not find one group outperforming the other group. My hypothesis was that the online group would perform better on the post-test and the students’ behavior would be superior to the flashcard group. Upon completion of the t-test comparing the change in scores between pre and post-test of the two groups, the results were inconclusive. As for the observed behavior, the number of online game students who exhibited off task behaviors was lower than students in the flashcard group.

I could not draw a definite conclusion to the first part of my hypothesis because of two limitations. The first limitation that hindered my results was the number of students that participated in the research. In one group 23 out of a possible 25 students participated in the study and in the other group 13 out of a possible 18 participated. The group of 23 was a good number to work with, however; the group of 13 seemed to be too small of a sample size to use for statistical analysis. The second limitation was the duration of the study; with more time the results might be different.

The qualitative data portion of my action research project could have answered my hypothesis better had I changed two things. First, I should have walked around more while the students were practicing their multiplication facts to get more accurate observations. Walking around would have kept the students on task and reduced the impact that off task behavior played in the results. Second, I should have changed the wording of the survey questions and the choices. The original questions were too vague and the responses led to inconclusive and confusing results. For a more effective survey the responses needed to provide ample opportunity for all the respondents to convey their feelings and to provide an easy way to evaluate the compiled answers.

My research question as to whether or not students’ learn multiplication more effectively with traditional flashcards or the Multi-Player Penguin Jump online game better remained unanswered. The results that I obtained did not provide conclusive evidence. The survey results also didn’t show any overall feelings or attitudes toward the flashcards or the online game. I would like to know from the participants if they preferred the online game over the flashcards or vice versa.

During my observations three problems arose. First, the online game participants wanted to pick their own game to play instead of continuously playing the game I chose for them. Allowing them to choose their own game may increase interest therefore potentially leading to better results. Secondly, those same students wanted to compete against each other instead of playing the computer. Permitting the students to play against each other may have led to greater enthusiasm and desire to improve their knowledge of multiplication facts. Finally, the flashcard students wanted to change their partners each day. Letting them change partners may have increased their on task behavior.

Even though I didn’t get the results I was looking for, I found a few positive outcomes during the research. After reviewing the observation results, I found that the students enjoyed the online computer game more than they did the flashcards. I believe this happened because the students were more engaged with computers in their everyday life. Additionally, both groups improved their average test score from the pre-test to the post-test and the number of answers they left blank, or didn’t answer. I believe this happened because both groups were getting repetition with their multiplication facts and it didn’t matter whether that was with flashcards or the online game. The more they saw the multiplication facts the better chance they had to remember them.

*Plan of Action*

In the future I would like to try this study again. However, I would like to have more participants the next time so there isn’t such a discrepancy in the two groups. Also, I would like to have more time for the research. I allowed the students three days of 15 minutes to work with the flashcards or the online game. The next time I would like to allow a month for the students to work with the online game and flashcards. I am not sure if more time would give me more definitive results or not but I would like to try.

I plan to use both the online game and the flashcards. Since both groups increased their average test score from the pre-test to the post-test I believe that both are beneficial. When I do this I will use the online game more than the flashcards since the students enjoyed the online game more than the students enjoyed the flashcards. The online group also exhibited less off task behavior keeping the distractions to a minimum. As long as students are getting some form of repetition with multiplication facts I believe they will start to remember them.

As for sharing the results of my study I plan to provide the administrators of my school district with a copy of my action research project. The lack of definitive results limits the amount of advice I can give to my colleagues. However, I plan to share the following with my peers: the enthusiasm toward the online game, overall behavior of the online group and the ability of both methods to have an impact on the students’ test scores.