**Teaching & Research Revision Summary Sheet**

During my journey exploring how to write an accurate and meaningful research proposal, I have learned that there an immense amount of necessary planning to complete before the research even begins. Along with this planning comes many revisions that are needed. I have broken down the revisions that I have made into the three different categories that my teaching and research proposal is also divided into: Focus and Rationale, Literature Review, and Research Design.

**Focus & Rationale**As I was completing my literature review, I realized that I really wanted to pursue my research proposal and complete an actual cause-and-effect experiment. So, I decided that I needed to narrow down my proposal to focus on students with learning disabilities.

I changed my research question to include this reflect my revised proposal. My new research question became: ‘What are the effects of using *Quizlet*, an online test resource, to create flash cards to study for test on high school students’ with learning disabilities?’

The main changes that I made to my focus and rationale was stating that I will be investigating how the use of *Quizlet* affects students with learning disabilities. I also added the use of *Quizlet* flash cards. There are many different features that *Quizlet* has to offer, and I want to focus on students creating and using the *Quizlet* flash cards.

**Literature Review**My literature review is the area that I struggled with the most during my teaching and research proposal. Thus, this is the area that I needed to focus my improvements on.

I started my revisions by making sure I used the same terminology that I used within my focus and rationale and my research design. I wanted to make sure that I was using the word “test” rather than the word “exam” when I was addressing biology assessments. I wanted to make sure I used the words that would be used to describe an assessment in a high school biology class. I also had to double check that I did not capitalize the word ‘Biology’. I also examined the literature review to make sure I had the correct research question presented to include students with disabilities.

Introduction
I made my introduction more specific by adding students with disabilities to my research question. This is very similar to how I changed my focus and rationale.
Perspectives
I started off by providing a brief description of a traditional classroom. This can be located in the second paragraph of my perspectives section. Continuing in the perspectives section, I added additional information regarding Strom, Strom, Wing and Beckert’s article. I did so by providing information that states the authors’ belief that technology is a vital resource. I also added more information stating that different researchers believe that technology is a useful resource in learning. I included Edwards’ opposing argument as well.
Pedagogy
In this section, I added more information regarding how I will personally use the information that I have gathered through my literature review within my individual research project. I have added an additional final paragraph to this section that summarizes how I am going to use this information as I am investigating *Quizlet*’s effect on students with learning disabilities and their biology test scores.
Assessment
I added more information regarding how cause-and-effect experiments are used in other research projects.
Conclusion
For my conclusion, I have stated my research questions more specifically by including students with learning disabilities and stating that students will be using the flash cards that are offered through *Quizlet* for my research.

**Research Design**I changed the explanation of my research question that did not make sense in my first submission.

**Focus & Rationale**

Hypotheses

Null hypothesis: As a result of high school students with learning disabilities using *Quizlet* flash cards to study for their biology tests for one hour the day before the test he/she will either earn the same test score as on a previous test or earn a lower test score.

Alternative hypothesis: As a result of high school students with learning disabilities using *Quizlet* flash cards to study for their biology tests for one hour the day before the test he/she will have an increase on his/her next test score.

Research Question

What are the effects of using *Quizlet*, an online test resource, to create flash cards to study for test on high school students’ with learning disabilities?

I teach students with learning disabilities who are all different and have their individual strengths and weaknesses. However, one similarity they all share is poor test scores. I am interested to see if there is a resource that can be used by my students to help them prepare for their biology tests and as a result earn higher test scores. My research question is: What are the effects of using *Quizlet*, an online test resource, to create flash cards to study for exams on high school students’ with learning disabilities?

This is an area of interest to me because I have many students who struggle when they take tests in general and especially biology. Biology is a class that all North Carolina high school students are required to take and pass before graduation from high school. The biology End Of Course (E.O.C.) test has proven to be a very difficult task for my students to successfully pass.

Part of my job as my students’ case manager is to help them improve their test taking skills and test scores. This is also a goal for many of my students in their Individual Education Programs (IEPs). The data I collect for my students’ IEPs is used to document their individual progress. The research I conduct will provide the documentation needed to show my students’ progress and hopefully improve my students’ biology test scores.

I became aware of my students’ low biology test scores by monitoring my students’ grades on a weekly basis. I was able to observe that many of my students earn A’s, B’s, and C’s on their class work and homework, but when it came to tests they earn D’s and F’s. I want see if there is a way for my students to earn A’s, B’s, and C’s on tests.

My colleagues would also be interested to learn the effects of students using *Quizlet* to study for their biology tests. As educators, we want all of our students to be successful, especially with regard to demonstrating their knowledge of the material being taught. If I can find a relationship between student use of *Quizlet* study for their biology tests and a corresponding positive impact on their test scores, such a correlation would be helpful for my colleagues in preparation of their students for the E.O.C. tests.

**Literature Review**

Introduction

I am conducting research to see how high school students biology test scores are effected if they study using Quizlet, an online study resource. I am specifically focusing on students with learning disabilities. I am inquiring to see how other researchers have completed research on how studying effects the final scores on a test. I am also looking for ways to motivate students, and how the use of Web 2.0 resources effects student learning. As part of my research I am looking for information about different electronic resources that are being used in classrooms. Also, I want to see what specific strategies researchers have used as well as how they have presented their data.

Research QuestionWhat are the effects of using *Quizlet*, an online test resource, when high school students with learning disabilities use it to create flash cards to study for tests?

Perspectives

Web-based programs are a relatively new resource. With this being said there has not been a lot of research on how these different programs effect students learning. However, different researchers have their opinions on how new programs that use technology will motivate students to learn and how these programs will accommodate the different learning styles students have.

 “We clearly need to find new ways to motivate learners” (Gee & Levine, 2009 p. 49). Students are lacking motivation to learn in traditional classrooms that consist of a teacher lecturing and students taking a passive role in their learning. Technology is a way that students can be engaged in learning. “Young people spend about 6.5 hours a day outside of school using media” (Curwood, 2008, p.35). Can this media be a tool that is also used in the classroom? David Williamson Shaffer who is a credible professor of education psychology expresses his view that technology is not useful if it is only being used to accomplish the same task as not using technology (Curwood, 2008, p.38).

Using the Internet as a learning tool “is beneficial because it allows individuals to proceed at their own pace” (Strom, Strom, Wing, & Beckert, 2009, p. 116). This is according to a survey taken by adolescents. If students are asking for the Internet to be used in their classrooms they are more likely to take an active role in their learning. According to Strom, Strom, Wing and Beckert’s article they believe that technology is a vital resource to promote and engage learning.

Parents as well as students have expressed their feelings towards the use of technology for education. In surveys conducted by Speak Up and Blackboard, 30% of students grades 9 -12 stated they were interested in taking an online class. Parents also expressed this interest with 42% saying they would like their child to take an online class. The greatest reason for this was the ability for parents to know what their children are doing in class (Henke, p.9). This information clearly shows that students, parents, and teachers all need to understand and agree upon the use of technology as a learning tool. It would not only be helpful for parents and teachers, but crucial for their students to become proactive learners.

For my research I will take into consideration how different individuals view Quizlet. Such as credible individuals like Shaffer who think that Quizlet is just another way for students to make flash cards, with the only difference being that students are using a computer to create them, instead of using index cards. With this being noted, I believe my research conducted with students with learning disabilities, may show that these students could be more motivated to study if they were able to use a resource such as the Internet.

Quizlet allows students to become independent and take responsibility for their studying. This is similar to how the new literacy 2.0 effects students’ responsibility. By letting “students take the reins” (Knobel &Wilber, 2009, p.24). Knobel and Wilber’s opinion is that technology is a way to not only motivate students, but that it also gives them the desire to continue learning. Their opinion completely opposes what Shaffer believes.

However, there are other researchers who believe that the use of technology in the classroom is essential for students’ ability to learn. Technology can provide support for students as they are reading. This is especially helpful for students who have learning disabilities that hinder their ability to be strong readers. Peter Edwards has found in his The Thinking/Learning System that this is a successful means of assisting students when reading eTexts (Edwards, 2008). Edwards also believes that it is necessary for students to be provided with support as they are learning new material, especially when this information is taught electronically.

Pedagogy

Researchers have obtained results about how different computer and web-based games effect students learning. Liao and She conducted research on how a non-traditional web-based learning program, Scientific Concept Construction and Reconstruction (SCCR), enhanced student learning. Their findings indicated that the SCCR digital learning system had a positive correlation on student learning (Liao & She, 2009). As I am conducting my own research on the effects of Quizlet on students test scores I am thinking that I may find similar results.

Ke completed a study on how a mathematic computer game-based learning system impacted student learning. His findings indicated that students who participated in a web-based game preformed slightly better then the control group who received the same information through a traditional lecture format (Ke, 2008). Other researchers have also identified that “videogames that promote content area learning, facilitate critical thinking, and enhance students engagement” (Curwood, 2010, p.53).

The use of Web 2.0 resources in web-based self-testing indicates that students need more then just information presented in a format that follows different learning theories. That is why Liu, Liu, Bao, Ju, and Wang created a self-testing system that is designed for a student’s individual needs. “When a learner finishes a test and submits the paper, the system will automatically grade and analyze the answers” (Liu, Liu, Bao, Ju, & Wang, 2010, p.267). This provides students with immediate feedback and guidance as to where there are holes in his/her knowledge. This immediate feedback is vital for students who have learning disabilities that need to understand why they answered incorrectly. Quizlet may not have the same feedback capabilities as this web-based self-testing system, but I am hopeful that with the interactive properties of Quizlet it will thoroughly engage my students.

 In Barnett’s (2000) experiments he looked at how college students prepared for different assignments. He found that students used different strategies that they had used in previous years of education. Even after students knew that they did not perform well on the first assessment they did not change the way in which they studied for the next assessment. When students were asked why they continued to study in a way that they knew was unsuccessful they answered, “it just works for me” (Barnett, 2000, p.45).

 By reading articles that provided me with information regarding different online sites I have learned new ways to use technology. For instance, there is more then one way to use the Internet for learning, and that different web-based games can help students to learn information as well as motivate them to continue learning. Also, I have learned that there are programs available that will grade students work immediately and provide feedback on the work they submitted. I will certainly use this knowledge as I am investigating how Quizlet effects biology test scores of high school students with learning disabilities.

Assessment

The use of online assessments may not be viewed as having positive outcomes for many different reasons. In Muchovej’s study of college level students who take online quizzes for extra credit, prior to biology exams, showed that the students who chose to participate in the online quizzes did not have a strong correlation between taking the online quizzes and the exam. This information is contradictory to what I would have thought. I now know that studying through the use of online quizzes may not have a positive effect on students’ tests (Muchovej, 2009).

Quizlet was featured in TechTrends as a good resource to use in English classes because it gives students the ability to expand language vocabulary through the use of vocabulary word sets (Oliver, 2010, p.52). The same vocabulary word sets could be a great resource for students to use as they are working with their biology vocabulary. I am hoping that I will be able to achieve similar results with my research.

 Hsieh and Dwyer conducted an experiment to see how the instructional effectiveness of different reading strategies had on learning objective tests. For this experiment there were four different groups, the control group, the rereading group, the keyword group, and the question and answer group. The control group was set up as a group to compare the other three groups to (Hsieh & Dwyer, 2009). This information will be valuable as I start my own research on how Quizlet effects students’ grades on biology tests by proving an example of how cause-and-effect experiments are developed.

 From the works of Hignite, Margavio, and Margavio (2009) I have learned that it is imperative to not only compare students who have and have not used Quizlet to study for their biology tests, but it is important to compare different genders, ethnicities, and socioeconomic status in my study as well.

Conclusion

Research has shown there are many aspects to what motivates students and how different web-based programs can effect students’ abilities to meet learning objectives. By identifying what other researchers have done in the past I have learned that in order for me to perform my own research the information must be created in an organized, precise manner. This will allow me to see how my students use the Quizlet program to study as well as be able to look at their individual test scores to determine the effectiveness.

I have seen through the works of others that surveying students consists of more than just asking them what they thought about the test. The students need to give much more specific answers so that my data will produce further accurate results. When I ask my students to complete a survey about a test they will be taking I am going to ask specific questions, such as, “how did you study?” and “how long did you study?” and “where did you study?” When presenting my data I am going to utilize the tools of others such as using graphic organizers and graphs. I was impressed with how Liu, Liu, Bao, Ju, and Wang (2010) used graphic organizers to display their data and how they explained exactly what they were researching.

 I believe that technology in the classroom will prove to be a great resource to use to gain and sustain students’ attention. Students are being stimulated by technology all throughout their day because the 21st century is technology-driven. Due to this fact, traditional classroom set ups no longer always engage these types of students. Through the use of new technology I believe I will see my students’ study habits and test scores improve especially with my students who have learning disabilities. Subsequently, this overall change could possibly have a positive effect on students End Of Course (E.O.C.) tests.

References

Barnett, J. (2000). Self-Regulated Reading and Test Preparation Among College Students. *Journal of College Reading and Learning, 31*, 42-48.

Barnett stated, “self-regulated learners employ a range of study techniques” (Barnett). He used this information to further explain how college students use self-regulation, which included the behavior and effectiveness of studying, as they prepared for tests and quizzes in different introductory psychology classes. Barnett completed two different experiments to see how students’ quizzes and test scores were effected. As he completed these experiments he focused on the amount of time students spent studying and the memory strategy students used. His results did not show significant relationship between self-regulation and students’ quizzes or test scores.

Curwood, J. (2010, March/April). Beyond Google. *Instructor,* 49-53.

As students are using the Internet in their classrooms it is important that teachers move to more interesting websites then just Google and Wikipedia. There are many different techniques to engage students as they are learning in different ways through the use of resources that are free on the Internet. Blogs and Wikis can help students to be global writers. Photo and video editing tools are being used in classrooms to allow students to work collaboratively with their classmates to create a project that can be shared with millions on the Internet. Social networking websites such as Facebook and Twitter are being used in some classrooms to show students how to create different social and professional identities. The final Web 2.0 resource that was discussed were video games and digital labs. These are being used to “facilitate critical thinking and enhance student engagement.”

Curwood, J. (2008/August). Generation IM. *Instructor,*  34- 38.

How do we reach children in a wireless world? Curwood provided different ways in which teachers could help students learn through the use of different technologies. Julie Corio, coeditor of the *Handbook of Research in New Literacies*, *states* that in order to be a critical thinker you must be able to access and comprehend information online. Students now have gaps in their learning, and whose prior knowledge is limited, could benefit from searching online because as students search for information they are filling in gaps in their own learning independently.

Edwards, P. (2008, Fall). Motivating Readers with Illustrative eText. *Kappa Delta Pi Record,* 35-39.

Having students use technology is a way to motivate students as they are learning, especially students who have reading disabilities. There are different resources available for students to use to assist with reading text. eText is “text that has been altered to increase access and provide support to learners” (36). This type of text is valuable for students who are struggling to learn new vocabulary. Edwards created The Thinking/Learning System as a way to guide students to these higher levels of thinking and helped them to be more successful when answering higher level Blooms questions. This is a type of guided reading system that assists students as they are reading online text. This system gives students options to express their knowledge of the text, which follows Gardner’s multiple intelligences.

Gee, J., & Levine, M. (2009, March) Welcome to Our Virtual Worlds. *Educational Leadership,* 48-52.

Students of the 21st century are not the same as students of years ago. Today’s students are engaged with video games, social networking sites, and new technology. “Digital media hold out the potential to hone the skills necessary for success in our globalized world” (Gee and Levine 49). Online programs such as Webquest allows students to explore particular topics in which they are interested, and research in an organized format. Gee and Levine point out how different computer games such as *SimCity* and *Oregon Trail* can help engage students as they are participating in high level thinking skills. As students play these games they are applying new vocabulary and team building skills that are necessary to be successful after graduating from high school. Gee and Levine emphasize the importance for teachers to be able to use technical resources to meet the needs of their tech savvy students of the 21st century.

Henke, K., Learning in the 21st Century: a national report of onLine Learning. 1-12.

Speak Up and Blackboard sponsored a survey that addressed students, parents, and teachers’ feelings towards online learning and the use of online resources. 232,781 K-12 students, 21,272 teachers, and 15,316 parents completed this survey as part of Project Tomorrow, a national research project. The findings indicated that middle school students hesitated to take online classes unless the classes would provide additional help and support. High school students reported that they would like to take online classes because it would give them the ability to take a class that was not offered at their school, or would allow them to take an AP class. Parents showed an increased interest in their children taking online classes mainly due to the fact that they were able to monitor their progress as well as stay informed with the details of the class. This survey revealed that students, parents, and teachers all believed that online education is important, especially since more and more technology is being incorporated into curriculums.

Hignite, M., Margavio, T., & Margavio, G. (2009). Information Literacy Assessment: Moving Beyond Computer Literacy. *College Student Journal, 43*(3), 812-821.

Computer literacy has been outdated and now the need for information literacy is becoming imperative for college students. Hignite, Margavio, and Margavio conducted a study that included over 600 first or second semester college students who took a computer literacy course in a large Midwestern University. For this study the Information and Communications Technology (ICT) exam was used to compile the final results. There were four areas that the researchers were evaluating, race, gender, ACT score, and major. The results showed that students who were Caucasian scored slightly higher than students who stated they were non-Caucasian. Females scored significantly higher then males on the ICT exam. Students who earned higher grades on their ACT also scored higher than students with lower ACT scores. Business majors who had slightly lighter course loads (3 courses instead of 4 or 5) preformed better on the ICT exam than students with heavier course loads. However, more research needs to be completed to insure accuracy results over time. This study showed that there is vast room for improvements in teaching college students information literacy.

Hsieh, P.- H, & Dwyer, F.(2009). The Instructional Effect of Online Reading Strategies and Learning Styles on Student Academic Achievement. *Educational Technology & Society*, 12 (2), 36-50.

Hsieh and Dwyer conducted a study with 169 undergraduate students to examine the effectiveness of different reading strategies and learning styles when reading online text. Students were divided into four different reading groups, the control group, the re-reading group, the keyword group, and the question and answer group. Each group had the same criteria measures, drawing test, identification test, terminology test, and comprehension test. The results showed that there was no significant relationship between the reading strategy and the learning style. However, the significant difference between the reading strategies was apparent in the re-reading strategy. Students who participated in the re-reading group scored higher in all four criteria measures. Showing that re-reading when using online text was an effect reading strategy.

Ke,F. (2008). Alternative goal structures for computer game-based learning. *Computer-Supported Collaborative Learning, 3*, 429-445.

The focus of Ke’s study focused on the classroom use of computer mathematic games and the impact on students’ mathematics performance and students’ attitudes. Ke provided an introduction to his study and a literature review that he conducted before starting his study. Through his research he found that there was little information regarding computer game-base learning of mathematics. Ke conducted a pretest-posttest design for his study. The study format was students took a pretest then participated in two orientation sessions to insure they knew how to use the computer program. After the orientation session students played one game during two 40-minute sessions a week for four weeks. Once the four weeks were completed students took a posttest. Ke created four different groups for his study, one control group and three computer game-base learning groups (Teams-Games-Tournament cooperative game-based learning situation, Competitive game-based learning situation, and Individualistic game-based learning situation). His results showed that students who participated in a computer game-base learning performed significantly better than the control group.

Knobel, M. & Wilber, (2009, March). D. Let’s Talk 2.0. *Educational Leadership,* 20-24.

There has been a “paradigm shift” from Literacy 1.0 to Literacy 2.0. There are three components of Literacy 2.0, participation, collaboration, and distribution. Outside of school there are many students who are engaged in online learning through the creating and sharing of their written work, artistic work, and even video creation. Students are learning theses skills independently as they explore the different resources that are available to them on the Internet. There are ways to use these resources in the classroom to engage students as well as take students learning to a high level, while preparing them for future jobs where they must work with others.

Liao, Y. –W., &She, H.-C. (2009). Enhancing Eight Grade Students’ Scientific Conceptual Change and Scientific Reasoning though a Web-based Learning Program. *Educational Technology & Society*, 12 (4), 228-240.

Liao and She completed a study on the impact of the Scientific Concept Construction and Reconstructing (SCCR) digital learning system using eighth grade students. The study focused on three areas: concept construction, conceptual change, and scientific reasoning. To study how the SCCR digital learning system effected students’ performance Liao and She compared their system to the Dual Situated Learning Model (DSLM) a conceptual change model. The results showed that there was a positive effect on the results of students who use a SCCR digital learning system. The SCCR group outperformed the conventional group with more students having a higher level of scientific reasoning.

Liu, X., Liu H., Bao, Z., Ju, B., Wang, Z. (2010) A web-based self-testing system with some features of Web 2.0: Design and primary implementation. *Computers & Education, 55,* 265-275.

Web-based self-testing systems are used to help students prepare for tests. The system designed by Liu, Liu, Bao, Ju, and Wang was designed with the social learning theory and constructivist learning theory in mind. They created a web-based self-testing system that used three different modules to assist learners, (1) online self-testing, interaction, (2) collaboration and communication, and (3) supporting module. All of these modules were divided into three different categories that assist with scaffolding learning. Learners took quizzes on a computer where it was graded immediately. Once the learner received their results they were provided with additional resources to visit to gain more knowledge or fill in holes in their existing knowledge. Learners were also provided with the ability to access different forums where they could post questions and find others who are learning the same information to communicate with. Users of the program could chat with others to gain more knowledge and collaborate as they are learning. After users had accessed this web-based self-testing system they completed a survey that stated the system was well designed.

Muchovej, J. (2009). Online Quizzes as a Study Tool for Biology Non-Science Majors. *Education Around the World*, *130*(1), 133-140.

Muchovej conducted a study to see if college students who were taking biology, whom volunteered to take online quizzes for extra credit, would effect their final exam grades. Most students in his biology class did not show interest in biology, they were merely taking the class to fulfill a graduation requirement. There were two parts to Muchovej’s study that dealt with the different sections of the biology class. The quizzes were offered on Blackboard for students to access anytime during the twice a week course (Monday and Wednesday). Students were able to take each quiz once and had 30 minutest to complete each quiz. Students were able to use notes and their textbook if they wished. Once a student finished the quiz it was graded immediately by Blackboard. The questions, and whether or not, the students answered them correctly were presented. Students were not given correct answers if they did not answer correctly the first time. It was assumed that students would look up any missed questions. Some of the questions that appeared on the quizzes were then transferred to the exam. Muchovej’s results showed that “students who took any of the quizzes online, only did significantly better than their classmates” (138).

Oliver, K. (2010). Integrating Web 2.0 Across the Curriculum. *TechTrends, 54*(2). 50-60.

There are many Web 2.0 resources that are available to use as teaching resources in the classroom. These Web 2.0 resources are usually free and can be accessed anywhere there is an Internet connection as long as school filters do not block them. These resources are provided for free because businesses advertise on these websites to cover the costs. Oliver provides different Web 2.0 tools that can be used for Science, English-Language Arts, Mathematics, Social Studies, Physical Education and Health, Music, Art, Foreign Language, and Business Education.

Strom, P., Strom, R., Wing, C., & Beckert, T. (2009). Adolescent Learning and the Internet. *NASSP Bulletin, 2,* 111-121.

956 adolescents, ages 13 years old to 17 years old, completed an online poll that addressed how they thought the Internet was being used for their education and how they would like to see the Internet used in their classes. The poll consisted of sixteen multiple-choice questions where students were able to choose more than one answer. The results indicated that students wanted to use the Internet in their classes as well as wanted to have Internet homework. Students expressed their feelings in regards to the Internet by identifying it as the place they learn best. The information students gave during this poll showed that students wanted to take an active role in their learning, and they wanted their teachers to be educated on the Internet so that they would be able to assist them as they are researching on the Internet.

**Research Design**

Research Question

The purpose of this study is to investigate the affects of using Quizlet, an online testing resource, on high school students’ test scores. Specifically, this study will identify how the use of Quizlet flash cards effect students’ biology test scores, particularly students with learning disabilities.

Procedures

Two different teachers will collect data for this quasi-experimental design with a control and experimental group. One of the teachers is a high school special education teacher and the other teacher is a high school biology teacher. The special education teacher will see all 30 students during one of two curriculum assistance classes. The class in which each student is assigned will be determined by the high school councilors. However, each student in both classes will be taking biology during the semester with the same biology teacher. The class period in which the students have biology will vary.

The first group, the control group, will consist of 15 students with learning disabilities who have been placed in curriculum assistance classes. These students will study for one hour the day prior to taking their biology test. They will use the study strategies they have been using that do not include Quizlet.

The second group, the experimental group will consist of 15 students with learning disabilities who are enrolled in a curriculum assistance class during the same class period. These students will study for their biology test using Quizlet to make flash cards, and study for one hour during their curriculum assistance class. This will be the day before their biology test. Each student will study independently during this class time.

Each student in this study will take his or her first biology test without any intervention. This first test score will serve as a base score for the experiment. After the first test students will then start their hour of controlled studying during their curriculum assistance class. The control group will study using previously learned study strategies that do not include Quizlet. The experimental group will have one hour of controlled study time using the Quizlet website to create flashcards and then study for their biology test the day before their test.

Through my literature review I have learned that it is incredibly important to have a control group and a experimental group when comparing cause-and-effect relationships. I was given a good example of how different control and experimental groups were created in Barnett’s Self-Regulated Reading study (Barnett, 2000).

Assessments

The assessments that will be use for this cause-and-effect experiment are five teacher-made biology tests that will be given over a semester. The first biology test will be the base score for each student’s next four test scores. Scores for each test will be calculated in percentages to account for the fact that each test will have different lengths. Each student in both the control and experimental group will have their test scores tracked to see if they are doing better, worse, or staying the same with their test scores.

The biology teacher will report the scores for each student’s test to the special education teacher. This information will then be recorded on a spread sheet to see how the test percentages compared to one another. After each test both the biology and special education teacher will meet and review the test scores to create a positive and negative point system to compare each test score to the students’ first test scores.

By completing my literature review I have learned that it is vital to create simple individuals surveys that consist of only a few question to collect data. Liu, Liu, Bao, Ju, and Wang’s demonstration provided information regarding the individual survey that they administered to individuals in their study. Their questions were detailed and straightforward, making it easy to read and understand by the participants in the study (2010).

After reading Muchovei’s study on how test scores were effected by online quizzes I learned that when you do not have enough individuals participating in a study it makes it very difficult to say that one specific factor caused a particular outcome. Due to this, Muchovel had to state that he did not have sufficient information to insure that the same results would occur again if the experiment was replicated (2009).

This is why I feel that thirty students would be a significant number for my small study or be a good starting point before expanding my study.

Students will also be given a short four question survey to complete prior to taking their biology test. This will be performed for each of the five tests during the semester. This survey will ask students the follow questions:

1. How did you study for this Biology test?
2. How long did you study for this Biology test?
3. On a scale of 1 to 10 how confident to you feel about this test?

(1 being not confident at all and 10 being extremely confident.)

1. What percentage grade do you feel you will earn on this test?

This survey will be used to see how confident students are when they prepare for an test using their own study strategies, and how confident students are when they use Quizlet flash cards to study for a test.

Design Rationale

I want to complete a small quantitative study that can take place in the high school where I teach. It’s located in a small rural town in North Carolina. In order for me to do this I believe that it is important that I utilize a quasi-experiment, because I do not feel it would be feasible to complete a true experiment with a random selection. In my study students will be placed into control and experimental groups based on class periods.

If I were to use a true experimental model for my research it would have to consist of more students who attend high school in many different cities. To complete this there would have to be many more teachers involved in the study, which would increase the third variable that could have a negative effect on the results. Every teacher has his or her own teaching style and this could jeopardize the results of having consistent factors in my study.

By keeping the biology teacher consistent throughout the study students are receiving the material presented in the exact same way. Additionally, the biology five tests that are given to the students throughout the semester will be the same to keep consistency during the experiment. This will limit the third variable that could occur within the study.

Students will also complete a short self-reflection survey each time they take a test. This information will be particularly helpful in order to gain understanding of how students view themselves depending on the way in which they have studied for a test.

If students did not complete a self-reflection study it would be very difficult to see how each student viewed him or her self’s ability depending on the way in which he or she studied. This is why it is crucial to have students express their level of confidence prior to taking a test.

Lastly, through the information that I have read regarding quantitative research I found that the quasi-experiments designed to gain important information regarding social research is a credible form of research. Therefore, I am confident that my research will be as accurate as humanly possible.