

Elizabeth Maccani
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Research Project Design

Introduction

Focus:

Based on what I've learned from other people's research and on my own thinking on this topic, the focus of my research has evolved. The changes and the reasons for the changes in what I'm going to study include:

Changes:

When I first started thinking about this project, I thought I would focus on researching iPad applications and their impact on students' literacy learning for students ages 5 to 8. After searching for research, I determined that this was too narrow of a search topic. I decided to look at students of all ages as well as all digital texts instead of focusing on just iPads. As I continued my research, I learned that the technologies available related to enhancing students' literacy skills are based not only on the effectiveness of the tools but also on the effectiveness of the teacher *using* the technology. I also made one more change towards the end of narrowing in on my focus. I decided to focus on elementary aged students because I realized that trying to implement a research project involving all ages and all abilities is too wide of a range to deal with in one research project. Focusing in on elementary aged students allows me to conduct more case studies in those designated grades and evaluate the data for that specific age and classroom setting. I also decided to focus on one digital text to have less variables incorporated into the research.

Citations that led me to my changes:

"As society continues to advance, the demand for digital technologies in the classroom increases (Saine ôc Kara-Soteriou, 2010), In order to accommodate this changing need, iPods, iPads, and the SMARTBoard have made their way into some classrooms across the globe. These tools are transforming literacy instruction and the way students are learning," (Saine, 2012, pg. 74). Many of the articles I read validated my curiosity about the effectiveness of these digital tools. What does research say about iPads improving literacy? And what research can I do to develop a better understanding of this?

"As we wait for the results of research, the authors encourage more teachers to explore for themselves ways that the iPad and similar electronic tablet devices can provide support for struggling readers. We encourage teachers involved in Response to Intervention programs, for example, to consider experimenting with tablet computers to allow students to gain insight into their reading by hearing themselves read (Chalmers, 1991) as more eBooks with such capability become available, to improve comprehension with the use of electronic graphic

organizers (Smith & Okolo, 2010), and to interact with reading passages by making electronic notation in the text (Evans et al., 1995, 2004)." (McClanahan & Williams, May/June 2012, pg. 27)

My final focus has transformed into this:

I am interested in learning more about how to determine the impact of iPads, focusing on literacy, for students in the elementary grades. I would also like to have an emphasis on how teachers are using these technologies to enhance students' learning.

I came to this conclusion because as I was reading through the articles of research, I realized that its not solely based on the digital texts or applications, but *how* we, as teachers and parents, use, incorporate, and take advantage of these tools in our implementation with our students. The question is more of how and what we can do with these technologies to enhance and advance our students' learning. I worded my research questions in a way that makes us delve deep into our teaching practices. I also want the questions to make us thoroughly examine and become familiar with the technologies we are trying to use to improve our teaching. The following questions have become the most relevant and important in my research project.

- How can iPads enhance literacy learning for students inside and outside the classroom?
- How can we make the most of iPads to improve teacher and student learning in literacy?
- In what specific ways do iPads support students' literacy learning?
- After getting past the excitement of the iPad, how do we design our teaching to support these tools successfully in the classroom to improve student learning?
- What specific educational applications make a difference in students' literacy learning? How do we determine the effectiveness of these apps?

Lessons learned from other people's research:

In my Review & Critique of Articles, I read about how other people have studied this topic. I paid special attention to the methods of studying this topic. From their work, the most important lessons or ideas I've gained include:

1. *Lesson 1:* When using case studies as a research method, it's crucial to take the appropriate steps to create a meaningful and well thought out plan. In the article, "*A Breakthrough for Josh: How Use of an iPad Facilitated Reading Improvement,*" the teacher worked closely with her superintendent and supervisor to develop the most applicable course of action for this student's tutoring. First they identified issues and concerns the student had with reading, collected the appropriate data, analyzed the data, developed an action plan and then implemented the plan. Structured lessons were planned and after the

tutoring sessions, and then they re-assessed the student to determine further instructional strategies. I also think its beneficial to complete more than one case study because one student's success is not enough to make generalizations. The article stated, *"This article reports the experience of one pre-service teacher with one struggling reader who was also dealing with ADHD. Consequently, these results cannot be generalized to other situations. However, the potential of transferability is real (Mills, 2000). It is important to ask why the iPad enabled Josh to focus on academic tasks and make such progress when five years of schooling and remediation had not offered such success. What was different?"* (McClanahan & Williams, 2012, pg. 26). So, this case study can lead us to much more success in our research, we just have to continue this project multiple times with the same intentions and goals.

2. *Lesson 2:* When interviewing teachers as a research method, make sure to have a large enough number of interviewees. For the interviews to be applicable, there needs to be a wide range of teachers so that a better perspective can be seen from the happenings in the classroom. Also, it is important to follow up interviews with observations. I don't think interviews alone are enough to validate the data because there just isn't enough evidence to support the conclusions. When conducting the observations, take notes, observe students, and collect student work and assessments. I really enjoyed reading the article from the NERA Journal called, *"iPods, iPads, and the SMARTBoard: Transforming literacy instruction and student learning,"* and thought that the authors main claims as well as the teachers lesson plans were highly interesting. But, with that said, I learned from this research project, because of the lack of interviewees. There were only 4 teachers interviewed and no follow up observations were conducted. The article stated, *"Teachers claim when students are engaged in digital literacy activities, the students see these tools as exciting and unique, but often not as schoolwork. Teachers also claim students become more creative in their thinking. For example, Tricia, a language arts teacher, noticed the deep and creative thinking of her students as they used the app, Toontastic, to created story elements for their animated stories. On the other hand, researchers wonder why more classrooms over the last three decades haven't changed their curriculum and instruction to adopt the available digital technologies,"* (Abadiano & Turner, 2007; Hew&Brush, 2007; Wepner et al., 2007). Teachers can *claim* a lot of different theories about technology in the classroom but at the same time teachers are not adapting enough to adopt these technologies successfully in the classroom.

3. *Lesson 3:* When using qualitative analysis of technology applications as a means of research, it is important to have well thought out criteria for the technology based on agreed upon guidelines as well a third party's testament to the relevancy of the criteria. Analyzing and assessing the technology tools is a very important type of research to conduct and there are specific steps to follow. As mentioned in *Serious Play, Serious Problems: Issues with eBook applications,* *"To determine their capacity for facilitating 'serious play' and developing literacy skills, the ten interactive eBook applications were analyzed*

using the WCAG 2.0 Accessibility Guidelines. This technical analysis was further informed by the heuristic methodologies used by researchers such as Bernsen & Dybkjaer (2010), Bertini et al. (2006), Billi et al. (2010), and Nielsen (1994, 2010).” (Baird & Henninger, 2011, pg. 7). There were explicit guidelines to follow and that is an important element of this research that I learned from this article.

4. *Lesson 4:* When using questionnaires as a research method, it is important to include demographic information, clear, easily understood questions, and accessibility to all participants. It is also relevant to give the questionnaires to a large enough pool of people so that the data you collect is validated. In the article, *Multimodal literacy: What does it mean for classroom practice?* it states, “*The study used a mixed method design with online questionnaires and multiple case studies. The online questionnaires were designed to obtain information about students’ use of the Internet and digital texts, as well as print-based texts, outside school,*” (Walsh, 2010, pg. 216). This research made good use of questionnaires but used it in a missed method design, which I intend to use for my research project as well.

Lessons learned from my Quick Research Projects. In the QRP, we had a chance to try four major research methods: observation, survey, experiment, and interview. As I think about my own study, I feel the most appropriate methods would be:

I plan on using a mixed method design.

1. Case studies: Creating and implementing studies with students in the classroom gives a real world application to the research and therefore validates the data because it’s incorporates real world experiences. Included in that would be careful observations of the participants, which I had experience with during my QRP2. Watching participants’ reactions, body language, and responses can give us a great deal of information. I picked up on feelings and moods when being mindful of observing my participants and I plan on continuing that in my research study.
2. Questionnaires/Surveys: This method can give me a lot of informative data from a large group of people in a short amount of time. This method can also incorporate qualitative and quantitative data depending on the questions asked. The disadvantage can be the accuracy but overall I think it provides a substantial amount of data about the topic. During the QRP1, I enjoyed giving out the surveys and collecting the data from participants. I think it gives people an opportunity to give their thoughts and opinions in a safe, anonymous way. Gaining insight on teachers and students feelings about technology in the classroom based on digital tools for literacy, will give me a basis as to what type of attitudes and experiences are being brought to the table.
3. Interviews: Interviewing teachers and students throughout the case studies will give me even more in-depth information about what kind of

learning is taking place as well as an idea about the struggles and challenges that they are facing along the way. When I conducted my interviews for the QRP2, I gained so much insight on what my participants were thinking and feeling throughout the experiment and that can speak volumes. Hearing first hand what the experience is like and what was going through the mind of the participants can be substantial information for the research.

Designing a feasible study:

It is important that I design a study that is feasible - a study that could happen in the particular constraints of my work setting. When I think of some of the studies I've read, I realize that the constraints of investigating this topic in my work setting include:

Constraints:

1. Effective research methods will be time consuming and there would need to be very dedicated educators/researchers working on the project. This constraint can be dealt with by finding a school or schools to work with that have the same type of goal in my mind for their school year. Since this research project is time intensive, I need to work with a school that has the appropriate time to dedicate to this work. Working with teachers and administration that also wants to learn about the impact of digital texts in relation to literacy will make this experience more enjoyable and worthwhile.
2. There is a vast amount of information that can be collected related to this topic, which can make it difficult when factoring all the variables that come into play. I need to be very mindful and deliberate about my focus and have a very clearly defined purpose stated and explained to all participating in the project. I cannot stray from my ultimate goal and have to prep and train all working with me to follow the same guidelines so that we can stay on the right path.
3. Another factor to consider is access to iPads on a daily basis for all the case studies. Again, to deal with this constraint, I would need to find a school with access to these technologies or add this expense to the financing of the project. Ideally, I would like to work with a school with these technologies already in place so that there is already familiarity with it among the staff as well as the students.

Study Design & Rationale

Participants:

I will choose participants who have the following qualities: determination, dedication, motivation, experience, and organization. These qualities are

important to my study because this study will be time intensive, structured, and will require a huge commitment. I need participants who are willing to work hard and work together to make the most of the case studies. There will also be a lot of data to collect, a lot of procedures to follow, and a lot of prep work to prepare. Teachers will have to design multiple lessons based on our focus, create rubrics and assessments for students, observe and collect student work, and re-assess lessons to make everything as applicable as possible. For this to happen, teachers need to be organized and experienced because they need to be confident in their abilities and certain of their decision making throughout this process.

Instruments:

The sources of my data will be: Case studies, Questionnaires and Interviews
Details of my data source include:

1. 2 case studies per grade level for every grade level in the elementary school. Every case study will have a different literacy focus based on the needs of the students in the class. Teachers will work with their grade level colleague, principal, and assistants (if applicable) to have in-depth discussions about the plan of action. After determining the students' needs in terms of their literacy development, lessons will be designed using iPad applications to enhance students' learning of literacy. During the course of a series of lessons, teachers will observe, take notes, collect student work and assessments, and re-assess teaching methods along the way.
2. Questionnaires for teachers: Teachers will be given 2 questionnaires, 1 before and 1 after the case study is implemented. The questionnaires will be similar to this:

Before:

How familiar and confident are you with using the iPad in your classroom?
Specifically, what educational apps do you use with your students?

Do you think that iPads can impact students' literacy? If so, how does it positively affect students' learning?

What are the criteria for evaluating App usability and educational potential?

How can iPads enhance literacy learning for students inside and outside the classroom?

How can we make the most of iPads to improve teacher and student learning in literacy?

In what specific ways do iPads support students' literacy learning?

After getting past the excitement of the iPad, how do we design our teaching to support these tools successfully in the classroom to improve student learning?

What specific educational applications make a difference in students' literacy learning? How do we determine the effectiveness of these apps?

After:

After completing this case study, have you discovered new or developed effective teaching strategies with using the iPad?

Did your students improve their literacy skills throughout this case study? How much of it do you think is because of the use of the iPad?

What educational apps did you find helpful and effective? Why?

How did you design your lesson to support the use of the iPad effectively?

Will you use your iPad applications more often after this case study?

What did you learn from this experience?

What was frustrating? Exciting? Overwhelming?

3. Questionnaires for students: Students will be given 2 questionnaires as well.

Before:

Have you used an iPad before? If so, for what?

Do you enjoy using an iPad? If so, why?

Is an iPad easy to use?

Do you enjoy reading? How confident are you with your reading level and skills?

Is there anything that motivates you to be more interested in school?

How do you learn best?

After:

Did you enjoy using an iPad for learning in the classroom? What did you enjoy about it?

Do you feel like you have improved in regards to your reading skills?

What new skills did you learn from this experience?

How does using an iPad in the classroom change your learning, if at all?

4. Interviews of teachers: Before, during and after interviews will take place. Questions will be based on their experience including exciting & frustrating moments, progression of the lessons designed, the learning and challenges that took place along the way.
5. Interviews of students: Before, during, and after interviews will take place. Questions will be based on their experience including exciting & frustrating moments, progression of their learning, and reviewing student work/assessments with them to get an idea of their thinking and experience.
6. Observations and data collection: Observations with checklists and specific criteria will be used to help with data collection. Using non-partial observers will be helpful with determining accuracy and relevancy of notes taken. Data will be collected from pre- and post assessments as well as student work and observations.

Procedure:

The procedure for my study is:

Choosing a school or schools that meet my criteria: have a digital text focus for determining the impact of literacy learning, highly qualified dedicated teachers motivated and excited for this opportunity, and access to the iPads needed for this research project.

Participant selection: Since all students need to be able to access these tools, all students in the classes selected will be invited to take part in this research project. Since these case studies are being conducted in real life situations, there will be different circumstances and ability levels taken into consideration. Teachers will be chosen based on the qualities listed above. I am really looking for teachers who are passionate about their jobs and have the drive to make this project successful.

Steps of data collection:

1. Students will be assessed to determine literacy levels before case study takes place.
2. Teacher will design and plan lessons based on the use of the iPad for literacy improvement.
3. Teachers and non-partial observers will take notes during lessons that include students' participation, level of interest, and excitement. They will record student interactions with the iPad applications based on a checklist provided by me.

4. Student work will be collected throughout all the lessons. As well as rubrics and assessments used in correlation with the assignments.
5. Interviews will be conducted as mentioned above within my specific details.
6. Informal and formal assessments will take place throughout the implementation of the designed lessons.
7. All data will be collected and evaluated with teachers, observers and administrators present. They will be looking to see if students made progress in the literacy area that was assessed prior to the start of this study.
8. Qualitative and quantitative data will be organized, evaluated and presented in a logical way for everyone's review and critique.