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Part 1:

As I look at my classroom of 30 curious second graders this year, I want to be able to give them the world. I think to myself, that desire does not have to be a metaphor. The technology available can allow my students to experience things that they would not necessarily experience living their everyday lives. For example, during our solar system unit, instead of experiencing moon phases with a flashlight and ball, students can interact with simulations of moon phases through the use of technology to see the true explanation of why we see the moon in different phases. As I strive to help make meaningful connections between science concepts and my students' lives, I will utilize the resources of the ten iPads I have available in my classroom. I want to see the impact iPads have on my students' ability to comprehend, investigate, and explain daily occurrences through the lens of our science instruction. Our big idea for the year is *science is everything; everything is science*. I have a strategic plan to incorporate moments within our day for students to experience our science content as it is integrated into other core subjects. By adding the element of technology through the use of iPads, I believe my students' understanding will be heightened and I will see improvements in their growth. The iPads will play a vital role in allowing my students to gain quick access to information around our science content. Also, students will use the

iPads to visually see science learning where in other cases this might not be possible, as in our solar system unit for example.

With my work as I participate in the MSU-WIPRO Fellowship, I am looking to improve my students' overall experience with science content through intentional integrated planning. Simultaneously, through this DreamIT project, I am looking for two desired results. First, I want my students to be able to experience science through multimedia technology, project-based learning, and expression of content understanding through the ability of the iPads. I want my students to be able to explain familiar phenomenon through the lens of our science content while understanding and witnessing that science is all around them. Also, I want to improve my students' capacity and confidence in their technology skills using iPads as instructional learning tools. I want my students to be able to successfully navigate an iPad, produce projects to show understanding of content using the camera app, video app, and Educreations; a screencasting app that allows students to experience lessons and create their own visual of understanding. Also, students will be able to use assessment programs such as Socrative and Zaption to improve critical thinking skills using visual and textual evidence.

The use of iPads can play a vital role in the assessment of content understanding. Students will create unit projects on Educreations as they are able to explain their understanding on content through visual and audio elements. Students will be able to

participate in virtual learning tours through the Zaption program as they are assessed on visual content displayed through video. Also, students will use the app Socrative as quick checks and exit slips that will develop real-time data. This data will be used to make instructional decisions for small groups or reinforcement activities.

As I discuss this project with my colleagues through the MSU-WIPRO fellowship, I have come to find several integrative projects that involve picture taking to create displays of content understanding. I came across a very resourceful blog, Mr P's ICT Blog - Tech to raise standards!, that gave some great examples of how others are using tablets in their science instruction. Examples given were using the app Pages to enhance science vocabulary with picture matching and labeling. Also, allowing students to use various picture collages to depict life cycles of plants and animals as well as the structure of our solar system (Mr. P, 2013).

Knowing that these new technologies need a lot of scaffolding for my students, I will have patience with this process. I have strong, transparent support with my colleagues within my school, which will serve as an instrumental resource while learning to use iPads as instructional tools. I look forward to discovering creative ways to integrate iPads into our science instruction to help make meaningful connections between the classroom and my students' daily lives.

Reference

Part 2

Introduction

As we find ourselves teaching in the 21st century, we are hypnotized by all the gadgets that can be used within the classroom to replace yesterday's books and pencils. Teachers write grants, create charity projects, and stand in long electronics store lines during sales, all to stay current with these new instructional tools. But do we really know how these tools affect student learning? Undoubtedly, these gadgets are appealing to our students who have grown up in a time where we reference screen time, social media, and whatever the newest, i-phenomenon is, but does this appeal translate on test scores? With our students' 'outside of the classroom' experiences with technology on the increase, are we as teachers up for the task to use these devices as instructional tools? Once obtained, are these tools helpful to teachers, or just another overwhelming concept teachers shy away from because of their own comfort level?

While reviewing the literature that has been published, there are those who favor iPads in the classroom and those that believe it is an unnecessary luxury. I have come to find that there are specific trends that produce positive outcomes and there are specific applications that yield little to no effect on student learning. The biggest trend of all is that there are many different contexts applications of the iPad, that it is difficult for one to compare and measure its genuine effect within a classroom.

As I approach this year equipped with fifteen iPads to use with my students, I am interested in knowing what are the most effective ways to use the iPad as an instructional tool in the classroom. More specifically, I am curious to understand how the iPad can impact students' overall learning experience. Knowing my students have been exposed to these devices in a different context at home, I want to understand how to use the iPad has a tool and not a toy within my classroom. When reviewing the literature, I wanted to find a wide scope of examples and evidence to help discover how specifically the iPad helps aid in student learning.

The types of work that were reviewed are of a wide variety. I purposely sought out various works to find a wide range of applications, studies and results to seek an overall trend and presence of evidence. Within the review, there are case studies, student perspective pieces, qualitative and quantitative data collected, contradicting arguments, and a variety of examples from different contexts in education. I was more interested in seeing results in isolation rather than a comparative study to gain insight on specific practices that work when it comes to the implementation of iPads within a classroom.

Literature Review:

Teacher Use as a Reflective Tool

By first looking at the use of iPads through the lens of the teacher, examples of iPads having a positive effect can be found. Riley, (2013) gave an entirely different approach for the iPads as it is used in a performing arts class. This work suggests several

applications to benefit teaching and learning by using many visual, audio, and recording components that the iPad offers. Described are many uses the iPad has in music composition, theory, and other interactive applications to help enhance student learning. Also discussed is the ability for the iPad to be an invaluable resource for teachers to use in demonstrations, feedback, and the substitution for actual, tangible instruments when their music program might be lacking such vital equipment. Riley, (2013) supported the idea that the iPad is very adaptive to the teaching and learning context of any classroom. Also this work made parallel connections to other sources about rudimentary principles that teachers can use in their reflective process no matter what core subject is being taught.

Collaborative Learning Tool

iPads can create a sense of community within a classroom by fostering positive interactions between teachers and their colleagues, teachers and their students, and students with their peers. Roschelle, J., Tatar, D., Chaudhury, S. R., Dimitriadis, Y., Patton, C., & DiGiano, C. (2007) described the use of iPads as a collaborative tool for educators among their peers as well as allowing students to be a part of the planning process. Teachers are able to create interactive lessons and share them amongst colleagues. Teachers are also able to provide real-time feedback to their students to correct or challenge student thinking. Also, student work is easily shared using devices, which creates a transparent environment between teachers to enhance teaching and learning within the classroom. This work suggests that iPads create a sense of

community among educator when using certain apps, specifically Group Scribbles and Class Presenter. These two apps, along with others, allow teachers and students to engage more in revision, monitoring, feedback and discussion. This heightened interaction enhances student learning.

Creating Engagement and Motivation

An apparent trend found through this review was the heightened engagement created by the use of iPads in student learning. Several works reviewed help support this idea. First, Chou, C.C., Block, L., & Jesness, R. (2012) observed in their case study that the level of engagement was undeniable as students were highly engulfed in the task at hand. "The educational benefits have corroborated with the literature in many ways. Mobile devices such as iPads increase student engagement; teachers have commented that the students were 100% on tasks and engaging in classroom discussions" (Chou, 2012, p. 21).

Also, Grace, K. E. (2011) collected qualitative observations that were made during a study and concluded that the students using the iPads were more motivated to read verses the students who read the paper book. Lastly, Carr, J. (2012) conducted a quantitative, quasi-experimental study to examine the effects of iPad use as a 1:1 device on 5th-grade students' mathematics achievement for one-quarter duration of learning. The study used a controlled group who did not have access to iPads during math instruction and an experimental group who used the iPads as instructional tools. A pre-test and post-test were given to both groups. Findings showed that overall

mathematical experience given with the use of iPads was improved with higher levels of engagement, interest, and inquiry.

Effects on Student Attainment

When looking at the effects of student growth and attainment, the trends presented a surprising result. First, Carr, J. (2012) conducted a study that showed little difference between the group of students who worked with iPads and the group of students who did not receive any interaction with the devices. However, the study suggests further testing with other factors to be considered such as 24-hour access to iPads, more student participation, longer testing duration, and collection qualitative data as well. Grace, K. E. (2011) lead a study to assess the effects of e-books versus traditional paper text on reading comprehension. The findings showed no significant different between the two groups. The results do not indicate that students comprehend better or worse while using the iPad compared to paper-based text. The qualitative observations that were made concluded that the students using the iPads were more motivated to read verses the students who read the paper book. The study does suggest the continual use of iPads in education to allow students to take advantage of a technological device is our digital era.

When iPads Are Not Used Properly

When reviewing the literature, one will find several instances where iPads were not effective for various reasons. Often, the author of the study gave suggestions to

avoid such improper uses. Chou, C.C., Block, L., & Jesness, R. (2012) found distractions occurred due to the abundance of irrelevant apps and websites available to students. Also, the study did show a lack of teacher knowledge on effective implementation. It is recommended that teachers take continuous professional development to keep up with the innovative teaching and learning opportunities the iPad has to offer. This point can help strengthen the argument that proper planning about the TPACK model is essential in providing effective instruction and learning opportunities using the iPad. Clark, W., & Luckin, R. (2013) emphasized the importance for teacher professional development around iPads in order for effective teaching and learning to take place. It is discussed that teachers should experience learning with these devices rather than traditional professional development. This experimental approach, rolled out in phases from familiarization to identifying direct ways to use tablets during instruction will yield the best possible outcomes to teaching and learning.

Finally, Henderson, S., & Yeow, J. (2012) describes ways that the iPad can be used ineffectively within the classroom. Examples given were poor organization and scaffolding of the use of apps, distractions and misuse of the iPads by students, and inadequate planning as an effective learning tool. As a result, the study shows the iPad was most effective when being used as a supplemental tool alongside core curriculum. Therefore, this text supports the use of iPads to increase student engagement and accessibility to content, however cautions the intentional planning that must take place with teachers in order for iPads to truly be used effectively as a instructional learning tools.

Conclusion

After reviewing the work of others, three distinct findings emerged to the forefront of the research; iPads increase student motivation and engagement, iPads do not directly impact student academic achievement, and iPads are very adaptive in any blended learning context within various subject matters. Based on these findings, I have many ideas for implementation about how iPads can reach the greatest positive impact for my students. First, I will ensure that my students receive proper scaffolding on how to be successful with the devices. This includes very explicit directions on how to take care of our iPads, what specific uses will be allowed during particular activities, and create a strong understanding around iPad procedures and routines within the classroom. This will help eliminate improper use of the iPad, lack of understanding in the overall use of an iPad, and help eliminate distractions.

Another strategy that I will implement with my iPads as a result of this literature review is how the iPads will actually be used in the classroom. As discussed above, iPads can have great impact when used as a collaborative tool. I will subsequently give my students many opportunities to work in groups and to work on apps that allow peer collaboration and feedback. Also, while being used as an independent tool, I will primarily use the iPads as a differentiation tool, giving my students a personalized learning path to meet them at their level, or help enrich their learning with challenging tasks. While differentiating, I have learned that it is important to take into account

creativity and inquiry to spark my students' curiosity and motivate them to take advantage of all that the iPad has to offer.

Finally, I will look at how I, as the orchestrator of these devices, am using the iPads to my benefit. This will include professional development to stay current with effective practices, using the actual device as a reflection tool through recording applications, and taking advantage of apps that allow me to share and learn from colleagues. I believe that if I am very strategic about how I use the iPads and I skillfully implement them into instruction, I will ultimately see a positive impact on my students' learning.

Part 3:

Context:

For the context of this assignment, I will be looking at a problem of practice within my science instruction and how iPads can play a role in student learning within my integrated science content throughout the day. I teach in a second grade self-contained classroom at Shoesmith Elementary on the south side of Chicago with 29 students. I have a variety of learners from race, ethnicity, language, social-economic status, and academic levels. I will have the resource of having another adult in the room, as I will be a mentor teacher to a Michigan State intern again this year. Also, I have a

variety of technologies available to my students and me that include a Smartboard, 15 iPads, and a computer lab.

I will be developing competence in two pedagogical dimensions within this project. I want students to be exposed to more through the use of iPads to aid in their learning with science content. Simultaneously, I will be working towards integrating science into other parts of our day rather than a designated time block. My hope is that with these two approaches, connections will be made to my students' everyday lives and the science content they are learning within science. This is important because making meaningful connections between content and the real world help break down barriers of the classroom walls and ultimately creates learning opportunities throughout students' everyday encounters. Although implemented simultaneously, there are measures that will be used separately to understand the effects of both strategies.

Content:

Although this is a year-long project for myself in my classroom, for this assignment, I will look specifically at two units within my science curriculum: states of matter and the solar system. Within my Matter Unit, I want my students to understand the different states of matter, their properties, examples and connections of each state within their daily lives, and how the states of matter change between one another. Within my Solar System Unit, I want students to be able to understand the structure of our solar system, what is found within our solar system, and be able to make connections to observations they make in their everyday lives.

Students have trouble conceptualizing these ideas for a variety of reasons. Struggles that I see consistently are visualizing large scale concepts such as comparing distances and size within the solar system. Another example is the visualization of how the moon orbits the Earth and how this phenomenon is what changes the shape of the moon we see in the sky. Also, students growing up in a large city, are limited to experiencing certain phenomenons and climates that might hinder their ability to understand states and changes of matter such as ice caps on a mountain or glaciers. The use of technology will give my students quick access to information through digital text and diagrams (Riley, 2013). Also, virtual demonstrations of changing states of matter will be accessible through the use of iPads. Finally, students will be able to experience the solar system through video, pictures, virtual tools, and other interactive programs that will enable them to understand a very large and distant concept versus the ball circling a flashlight demonstration found in so many science classes. I want my students to feel like astronauts as they study these ideas and immerse themselves in their learning to excite curiosity and ignite meaningful connections to their everyday lives.

Technology:

I allocated 15 iPads to use during instruction this year with my students. I want to use these devices very strategically to ensure that they are being used as tools not toys. Too often these devices are used as digital babysitters for students to play on irrelevant apps instead of utilizing them within instruction that directly relates to student learning (Chou, Block, & Jesness, 20112). Understanding that my students will need strong

scaffolding with these devices, I will start with simple step tasks to complete on the iPads. These might include watching a video clip, flipping through pictures, and accessing digital text and diagrams. With more exposure, I will continue up the Bloom's Taxonomy pyramid to give my students the opportunity to apply, analyze, evaluate, and create using Scorative, Educreations, Pages, and the camera for photos and videos.

A goal for teachers is to use the time we have with students efficiently, integrating instruction wherever possible, combining skills and content, and creating a learning environment that allows students to stretch their learning beyond a textbook or even the classroom walls. Churches (2008) described the benefit of climbing up the ladder of the Taxonomy pyramid in order to reach a level or higher order of thinking for our students to help maximize the time we spend with them in the classroom. It is also discussed that the Blooms Taxonomy pyramid has bloomed digitally as well, with many technology integrations that allow students to evaluate, analyze and create using devices in their learning.

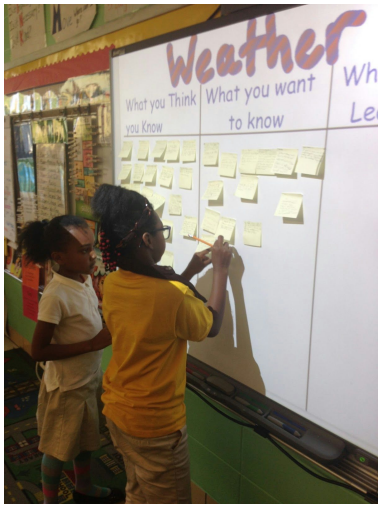
Pedagogy:

Understanding my students is key when deciding what pedagogical approach to take. My students are very creative and curious. They like to be active within lessons. They enjoy having an element of interaction to ask questions, discuss and respond to one another. Also, they are very engaged when content can connect to their daily lives and answer the question, "Why do I need to know this?". Therefore, I will have a variety

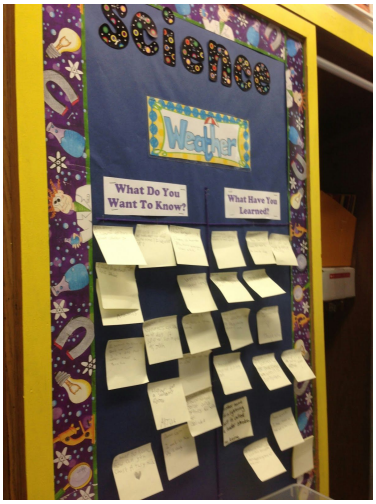
of activities, blended learning environments and performance of understandings to meet the needs of my students.

Students will partake in several different learning opportunities throughout this project. They will discover and explore content independently. They will also have the opportunity to partake in discourse around a big idea, using claim, evidence and reasoning through observation and informational text. Students will create projects, assessments, and even lessons themselves, that demonstrate their understanding of the content.

Examples of student engagement, curiosity and real-world application:



Creating big idea questions for our weather unit



Ongoing questions and discoveries

Student Lead Lessons

Student peer feedback

Cooperative group learning

Incorporation of technology during project research

Meteorology report

Creating recycling bins for other classrooms to go green

Solar system interviews

Finding symmetry in our classroom

Total PACKage:

Below is an outline of implementations using iPads within my science content. Discussed is what app of the iPad will be used, what is the blended learning environment during the activity, what level of the task is being asked for students to do, and what specific science content will the activity include.

Technology	Pedagogy	Content Knowledge
Digital maps/ paint/draw app	Project-based learning (Create)	Creating a model of the solar system
Socrative	Assessment task- group	Quick checks/ exit slips

	and individual (Remember/ Understand)	about matter and solar system content
Pages	Individual assessment/ Creating assessments (Apply/ Create)	Check for understanding around matter and solar system vocabulary
Video clips	Discussion/debate (small group or whole class) (Evaluate)	Argument/ opinion speaking within the matter and solar system units- students using facts learned in science units to support their claim
Video recording using iPad camera	Individual exploration project around community (Analyze)	Real-world examples of states of matter
Educreations	Individual project-based learning (Apply/Create)	Creating a lesson video explaining the properties of the states of matter

The table above lays out several opportunities for science content to come alive through the use of technology. These projects and daily activities change the curriculum from learning science to *doing* science; being able to apply learning into real world situations, projects, and clear applications that connect to students' daily lives. Barton and O'Neill (2008) described a situation that took place with five students who predominantly lived in a low-income neighborhood. They stated, "While the young people were not engaged in a community-wide problem, such as their community's enduring struggles with air quality and quality healthcare, they were immersed in their own equally valuable problem: how to raise the question of who can do science and what

that looks like." (pg. 156). These everyday phenomena that our students are immersed in, create such valuable learning opportunities and connections that no textbook, or worksheet could replace.

The use of technology within these projects is an invaluable asset, because it creates access to science content that might not normally be experienced through a textbook or curriculum investigations. Allowing students to explore their learning through a different angle, push their inquisitive nature to ask more questions, and express their understanding through a variety of authentic projects, ensures that all students' needs are being met. Ultimately this creates a culture where learning is no longer limited to a classroom setting from 8:30am-3:30pm, but rather students take ownership of their learning by create learning opportunities within everyday phenomenons.

Part 4:

When evaluating the impact of integration of iPads have on student learning, one has to look through several different lens. First, an instructional goal to this project was the increase in confidence and efficiency that students posses using iPads for learning purposes. This will be measured by observing the productivity level students have when completing tasks such as finding certain apps, navigating settings, and signing into certain programs. Specifically, I will be looking for students to be able to navigate an internet search and the apps of Brainpop, Educreations, and Puffin Academy to access Science4us.com. Ultimately, I will be looking for a level of independence with my young

learners to use the device effectively in their learning. This measurement will indicate whether enough modeling and scaffolding occurred to allow my students to be successful.

Another instructional goal for this project was the increase understanding of science content using iPads. This will be measured using a pre and post test with two different groups of students; students who had access to iPads during their science instruction and learning, and student who did not. These assessments will not be the only qualitative data that will be gathered. Other assessments such as participation, anecdotal notes from student discussion, and in-class assignments throughout the unit will be gathered. Overall, I will be evaluating if there is a difference in the two groups of students' understanding of the concepts, mastery of the standards within the units, and the accuracy in information around big ideas. Also, qualitative data such as student surveys, the quality of student response leading to understanding and the overall organic nature of student engagement and inquiry will be observed throughout the unit.

There is no secret equation to student achievement, because every group of students is unique in its own way. However, I am confident that when my students get excited about their learning, make meaningful connections to their daily lives, are able to visualize and conceptualize complex ideas, and have a high level of engagement, positive results will occur. I believe that integrating iPads into the teaching and learning

that happens around science content will create this genuine learning environment and subsequently positive student growth, achievement, and attainment.

Works Cited/References

Bennett, K. (2011). Less than a class set . *Learning & Leading with Technology*, *1*(December/January 2011-12), 22-25.

This article investigates the situation when educators are given a small number of devices instead of the ideal 1:1 student to device ratio. The article suggests many benefits to using iPads within the classroom, while also providing specific strategies to positively affect instruction and student learning. Some examples of uses are centers, small groups, and motivating individual students. Also, the text offers logistical suggestions for teachers when managing their sets of iPads. Finally, the article gives suggestions of apps to be used within specific curriculum to enhance student learning. This article can be used to support the claim that even a small number of iPads can have a big impact on student learning, engagement and motivation.

Carr, J. (2012). Does math achievement h'APP'en when iPads and game-based learning are incorporated into fifth-grade mathematics instruction? *Journal of Information Technology Education: Research, 11*, 269-286.

The purpose of this quantitative, quasi-experimental study was to examine the effects of iPad use as a 1:1 device on 5th-grade students' mathematics achievement for one-quarter duration of learning. The study used a controlled group who did not have access to iPads during math instruction and an experimental group who used the iPads as instructional tools. A pre-test and post-test were given to both groups. The findings on 1:1 experience during this study was mixed. First, researchers agree that the overall mathematical experience given with the use of iPads was improved however, the findings showed little difference between the two groups. Also, the study shows a significant amount of money spent by the district for technology maintenance. The study suggests further testing with other factors to be considered such as 24-hour access to iPads, more student participation, longer testing duration, and collection qualitative data as well.

Chou, C.C., Block, L., & Jesness, R. (2012). A case study of mobile learning pilot project in K-12 schools. *Journal of Educational Technology Development and Exchange, 5(2),* 11-26.

This case study looks at the use of iPads in a 9th grade geography classroom. Through observation, the study finds both positives effects and challenges with the use of iPads as learning tools. As found in other sources, the level of engagement was undeniable as students were highly engulfed in the task at hand. Also, teachers benefited from student-center

learning, allowing them to focus on differentiation opportunities. The study did find distraction occurred due to the abundance of irrelevant apps and websites available to students. Also, the study did show a lack of teacher knowledge on effective implementation. It is recommended that teachers take continuous professional development to keep up with the innovative teaching and learning opportunities the iPad has to offer. This point can help strengthen the argument that proper planning about the TPACK model is essential in providing effective instruction and learning opportunities using the iPad.

Clark, W., & Luckin, R. (2013). What the research says. iPads in the classroom. London Knowledge Lab. *Institute of Education University of London*.

This article provides research conducted in the United Kingdom around using iPads in the classroom. The research has found that iPads increase collaborative learning, provides personalized learning experience, and are good tools to be used to monitor and assess student progress. The article also suggests strategic long-term planning for the successful implementation of using iPads as instructional tools. It emphasizes the importance for teacher professional development around iPads in order for effective teaching and learning to take place. The article also discusses

the use of iPads as a tool to include parents in their child's education to help enhance learning experiences. Overall, this article support the claim that iPads boost student learning while also articulating many factors that play a part in a child's learning experience and how the iPad helps connect all these components.

Diemer, T., Ferandez, E., & Streepey, J. (2012). Student perceptions of classroom engagement and learning using iPads. *Journal of Teaching and Learning with Technology, 1*(2), 13-25.

This piece of text gives the unique perspective of a student's point of view with the use of iPads as educational tools. The undergraduate students were given surveys throughout the experience to measure with level of comfort, engagement and motivation. The surveys showed a high levels or improved levels of engagement with the use of iPads. They also showed the motivation to continue the use of iPads in their educational experience after the study ended. These results were found in students at all comfort levels and those who were hesitant when beginning the study ended with higher levels of comfort with using them as an educational tool. Also, the findings showed that the differences in age, gender and language had no effect. This study expresses the need students have to use devices in their educational experiences. The study showed improvements in engagement,

and improvements in effectiveness overall with the iPads. Again, showing the positive effects iPads have on student learning.

Grace, K. E. (2011). *Comparing the ipad to paper: Increasing reading comprehension in the digital age* (Doctoral dissertation, Bowling Green State University).

This research article looks at the question: Does reading electronic text on an iPad impact third grade students' silent reading comprehension? A quantitative and qualitative study was done with 23 participants during a two-day duration. Two groups were established, one group reading a paper book and other reading an electronic book on the iPads. Each day the students were assessed on their comprehension of a chapter they read. The findings shows no significant different between the two groups. The results do not indicate that students comprehend better or worse while using the iPad compared to paper-based text. The qualitative observations that were made concluded that the students using the iPads were more motivated to read verses the students who read the paper book. The study does suggest the continual use of iPads in education to allow students to take advantage of a technological device is our digital era. This study does support positive student engagement using iPads, however is a counter-argument for the iPad's effectiveness on student attainment.

Henderson, S., & Yeow, J. (2012, January). iPad in education: A case study of iPad

adoption and use in a primary school. In *System Science (HICSS), 2012 45th Hawaii International Conference on* (pp. 78-87). IEEE.

This case study looks at the integration of iPads into classrooms with students aging 5-12 years old. This article poses strengths that iPad is a highly interactive tool that allows students easy access to a wide variety of information effectively. It also highlights the positive effect iPads have on the collaboration among different interactions; student-to-student, student-to-teacher and teacher-to-teacher. The case study also describes ways that the iPad can be used ineffectively within the classroom. Examples given were poor organization and scaffolding of the use of apps, distractions and misuse of the iPads by students, and inadequate planning as an effective learning tool. As a result, the study shows the iPad was most effective when being used as a supplemental tool alongside core curriculum. Therefore, this text supports the use of iPads to increase student engagement and accessibility to content, however cautions the intentional planning that must take place with teachers in order for iPads to truly be used effectively as a instructional learning tools.

Price, A. (2014). Autism and iPads: What we are learning. *Teacher Librarian, 41*(3), 40-41.

This text discusses the interaction between the iPad and students with autism. The article specifically discusses the use of the iPad and its

communication apps. The article suggests the iPad offers a more affordable option for parent verses the other communication devices autistic students were using prior to the invention of the iPad. The article also mentions the need for iPads in the classroom over other tablets by stating that the iPad communication apps are more developed than those found in what the Android tablets can offer. This article supports the use of iPads with all students by giving specific examples of how it can heighten the learning experience of students with special needs.

Riley, P. (2013). Teaching, learning, and living with iPads. *Music Educators Journal*, *100*(1), 81-86.

This article is in the context of using the iPad in a performing arts classroom. It poses several applications to benefit teaching and learning by using many visual, audio, and recording components that the iPad offers. The article describes many uses the iPad has in music composition, theory, and other interactive applications to help enhance student learning. It discusses the ability for the iPad to be an invaluable resource for teachers to use in demonstrations, feedback, and the substitution for actual, tangible instruments when their music program might be lacking such vital equipment. The article supports the idea that the iPad is very adaptive to the teaching and learning context of any classroom. Also, the article makes parallel connections to other sources about rudimentary

principles that teachers can use in their reflective process no matter what core subject is being taught.

Roschelle, J., Tatar, D., Chaudhury, S. R., Dimitriadis, Y., Patton, C., & DiGiano, C. (2007). Ink, improvisation, and interactive engagement: Learning with tablets. *IEEE Computer*, *40*(9), 42-48.

This article describes the use of iPads as a collaborative tool for educators among their peers as well as allowing students to be a part of the planning process. Teachers are able to create interactive lessons and share them amongst colleagues. Teachers are also able to provide real-time feedback to their students to correct or challenge student thinking. Also, student work is easily shared using devices, which creates a transparent environment between teachers to enhance teaching and learning within the classroom. This text suggests that iPads create a sense of community among educator when using certain apps, specifically Group Scribbles and Class Presenter. These two apps, along with others, allow teachers and students to engage more in revision, monitoring, feedback and discussion. This heightened interaction enhances student learning.

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CEP 822 DreamIT Part 4 and Final Rubric

	1 point	3 points	5 points	TOTAL/Comments
Response to Revisions	Incomplete response to instructor and peer feedback; did not attempt to integrate comments into final revisions.	Partial response to instructor and peer feedback; moderate attempt to integrate comments into final revisions.	Complete response to instructor and peer feedback; full attempt to integrate comments into final revisions.	5 points. Very strong integration of feedback and the writing improved as a result!
Part IV (Evaluation)	Author does not fully explain how the transformative impact of technology on student learning will be measured and/or evaluated.	Author explains how impact of technology on student will be measured and/or evaluated, but some details may be lacking, or methods may appear unconnected to research design.	Author clearly explains how impact of technology on student learning will be measured and/or evaluated.	5 points. Way to make a complex topic readable and accessible.
APA Style & Works Cited	APA style is generally incorrect and writing is difficult to read (convoluted, vague, or with major gaps in logic, flow, or expression). The works cited present major gaps in topics covered; citations are disjointed and appear unconnected.	APA style is mostly correct, with minor errors. Writing is generally readable, though may present occasional challenges in comprehension, flow, or expression. The works cited generally "hold together" but some citations appear to add little to the	APA style is flawless, with rare (or no) errors. Writing is crisp, clear, and coherent. The works cited suggest that the author has a solid understanding of the topic and includes citations that support rich understanding of the topic.	5 points. 1 minor APA issue that I think you can fix quickly enough :)

		topic at hand.		
Final Document Presentation	Generally incomplete and is not ready for final presentation (and lacking many or all requirements, including table of contents, headers, and others) or to be shared with other professionals.	Mostly complete; with some revisions, will be ready for final presentation (including many requirements, though some may need revision) or to be shared with other professionals.	Complete final document that is ready for final presentation (including table of contents, headers, and all requirements) or to be shared with other professionals.	5 points. Strong writing throughout that is ready to be shared with peers and colleagues. Nice work throughout, Ashley!
			TOTAL	20/20