Using iPads to Increase Student Engagement

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**Description of the Capstone Experience and Results:**

During the 2013-2014 school year, a Capstone project was proposed to train teachers to incorporate technology-infused lessons into kindergarten through fifth grade classrooms at Powder Springs Elementary School. A candidate obtaining a Master’s Degree in Education in Instructional Technology proposed to implement a series of professional development sessions to increase student engagement at the school. The project titled “Using iPads to Increase Student Engagement” was developed based on a need at Powder Springs Elementary. Due to the fact that iPads were a new technology at the school for the 2013-2014 school year, the decision was made to implement a series of professional development sessions that aimed to increase teacher competency in using iPads as well as integrating technology in the classroom. The purpose of the capstone project was to help teachers develop awareness and competency in utilizing digital learning tools in their classroom. Teachers who showed interest in using the iPad carts were expected to attend the training sessions.

The capstone project aimed to determine the effect of the use of iPads as an instructional tool on student engagement. The success of the project depended on proper professional development on the technology tool so that students could optimally learn using accessible digital tools. Based upon Val Mehdinezhad’s (2011) research, evidence supports the fact that the effective use of technology in education requires an informed understanding of the expectations of students, staff and institutions. It also requires a “preparation for and induction into the use of technology to foster positive learning and student outcomes” (Mehdinezhad, 2011, p. 52). At Powder Springs Elementary, emphasis was placed on effectively providing teachers with training so that they could meet their class’ needs and enhance learning experiences.

In October of 2013, the candidate began to develop resources that would be used for the project. After collaborating with a district Technology Integration Specialist, the candidate created a vision for professional development sessions at Powder Springs Elementary. It was determined that training sessions for iPad integration would begin in January 2014. Content for sessions would be largely determined by the needs of the participants. Due to the fact that the participants would be determined in December 2013, the candidate spent time researching educational technologies. The candidate thoroughly researched the topic of integrating iPads in the classroom, as well as other related topics like facilitating a 21st Century Classroom as well as project based learning. A great deal of knowledge was gained, for the candidate strived to become an expert in the subjects presented before sharing it with others. Due to the fact that resources related to topic were plentiful, if not excessive, the candidate was overwhelmed with knowledge. It was not possible to take all of the information learned and reiterate it in six seventy-five minute sessions. It was also challenging to find a way to organize the information and present it a sequential manner. The candidate spent time slowly and carefully gathering high quality resource to benefit participants in the capstone project.

In November 2013, the candidate informed staff members at the school about the timeline of the upcoming trainings and the established schedule so that they could begin to think about their schedules and the time commitment the professional development sessions would require. The training sessions were optional, and the candidate promoted the benefits of obtaining training on the devices by emailing staff members and creating a sign to place in the staff mail room. On December 2, 2013, staff members were required to sign up for the iPad training sessions. Fourteen teachers expressed interest, but ten teachers ended up actually signing up. The training coincided with tutoring for the state-wide testing, and teachers expressed that they were too overwhelmed with work to attend multiple professional development sessions.

To guide the content of training sessions and ensure effective staff learning, a survey was administered to staff members to provide the candidate with input on content the sessions needed to successfully meet the capstone project’s objective. The objective of the capstone project was to increase staff learning and student engagement through the use of iPads at the school. As noted by Mehdinezhad, student engagement in activities contributes to their learning achievements and their sense of belonging to the academic community (2011). The interaction between staff and students and between students is what defines student engagement (Mehdinezhad, 2011). The teachers were prompted to provide input and opinions of technology related statements to allow the candidate to gain a clear perspective of teacher competency and understanding utilizing technology in their classroom in the survey, “Using iPads to Increase Student Engagement” (See Appendix A). The following information was gathered from the teacher survey:

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| --- |
| "I feel comfortable operating an iPad and its functions and can troubleshoot with ease" |
| Strongly Agree20% | Agree30% | Neutral50% | Disagree0% | Strongly Disagree0% |
| "I feel comfortable using digital tools like iPads to support student-centered learning" |
| Strongly Agree30% | Agree30% | Neutral40% | Disagree0% | Strongly Disagree0% |
| "Using iPads in the classroom affects the extent to which students are engaged in the learning process" |
| Strongly Agree30% | Agree30% | Neutral30% | Disagree0% | Strongly Disagree10% |
| "My students are engaged in the learning process using the learning tools that they have access to" |
| Strongly Agree30% | Agree30% | Neutral30%  | Disagree0% | Strongly Disagree0% |
| At what level of Bloom's Taxonomy are the technology activities that students are typically involved in? |
| Remembering40%  | Understanding 80% | Applying40% | Analyzing40% | Evaluating20% | Creating50% |
| On a typical school day from 9:00-9:30AM, what percentage of your students are on task/engaged in their learning? |
| 0%0% | 1%-25%0% | 26%-50%20% | 51%-75%0% | 76%-99%40% | 100%0% |
| On a typical school day from 9:00-9:30AM, how many times do you need to remind students to stay on task/engaged in their learning? |
| 1-4 times50% | 5-9 times30% | 10-13 times20% | 14 or more times0% |
| What do you like most about teaching with iPads? |
| * I have not used the iPads yet in the classrooms.
* I have not used them in my class yet.
* I have yet to use them with my class.
* I have not had the pleasure of using the iPads in my classroom.
* Placing technology and the future of technology in the hands of elementary students
* Students are very enthusiastic about working with iPads. I have not used them in my classroom yet, however.
* I do not use them with my class, however, I have used my personal one with some students a few times and absolutely love seeing low students learn new things in an interactive way with kid-friendly apps! They are great intervention tools for kindergarten.
* I haven't used them yet.
* I haven’t used iPads yet, but I anticipate the major benefit being the the "Buy - In" for the students
* I do not use iPads in my classroom.
 |
| What do you like least about teaching with iPads? What issues, if any, do you feel need to be resolved for the iPad to be a more effective tool in the classroom? |
| * I have not used the iPads yet in the classroom.
* I do not use them in my classroom yet.
* Having time to figure it all out...
* n/a
* I have not had the pleasure of using iPads in my classroom.
* I have not used them in my classroom yet.
* I have not used them in my classroom.
* I do not use iPads in my classroom
* The students aren't able to save thier work and continue it in the next session.
* I haven't used them yet.
 |
| In what ways, if any, do iPads encourage individualized, interactive, and/or project-based learning? |
| * I have not used the iPads in my classroom.
* I have not used the iPads yet in the classrooms.
* It is easy to have certain students use certain apps to focus on a skill. It is equally easy for students to create projects and research information in a lesson.
* I haven't used them yet.
* While I do not use iPads yet with students, I know that they are extremely interactive and stimulating for students. They naturally meet students where their needs are in terms of where we are at in society.
* Students are given a wider variety of tools to use to express their learning.
* It gives them the freedom of independent exploration through multiple avenues.
* I don’t use them yet, but it allows for doors to be opened to allow studnets to learn in a style exclusive to their needs.
* I have not used them in my classroom yet.
* I have not used them in my classroom, but think that it allows them to explore and be creative. Not to mention excited about whatever they are doing!
 |

Student participants were asked to rate their opinion of related statements in the survey, “Using iPads to Increase Student Engagement: Student Survey” (See Appendix B). Student engagement was determined in a class of students who did not have access to iPads prior to professional development sessions. Student participants consisted of members in a second grade class of a teacher who was going to be attending the trainings. Engagement in this class was measured through obtaining opinions of students on the topic of utilizing iPads as a learning tool. The following information was reported from the student survey:

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| --- |
| 1. "I enjoy learning with an iPad" |
| Strongly Agree100% | Agree0% | Neutral0% | Disagree0% | Strongly Disagree0% |
| 2. "I concentrate better in class when an iPad is used to help me learn" |
| Strongly Agree62% | Agree24% | Neutral10% | Disagree0% | Strongly Disagree10% |
| 3. "I would work harder if my teacher used the iPad in my classroom more often" |
| Strongly Agree57% | Agree10% | Neutral29% | Disagree0% | Strongly Disagree5% |
| 4. "I know that using technology like iPads gives me opportunities to learn many new things" |
| Strongly Agree24% | Agree48% | Neutral10% | Disagree14% | Strongly Disagree5% |
| 5. "I can learn many things when my teacher allows me to use an iPad" |
| Strongly Agree14% | Agree14% | Neutral43% | Disagree18% | Strongly Disagree10% |
| 6. "I feel comfortable using an iPad" |
| Strongly Agree 24% | Agree33% | Neutral33% | Disagree5% | Strongly Disagree5% |
| 7. “iPads are not difficult to use” |
| Strongly Agree42% | Agree33% | Neutral19% | Disagree5% | Strongly Disagree0% |
| 8. "I can learn more from iPads then books" |
| Strongly Agree10% | Agree33% | Neutral42% | Disagree14% | Strongly Disagree0% |
| 9. "It is important for me to learn how to use an iPad" |
| Strongly Agree90% | Agree10% | Neutral0% | Disagree0% | Strongly Disagree0% |

Survey results allowed the candidate to determine basic information about technology integration and iPad implementation in the participants’ classrooms. Based on the findings from the teacher survey, it was evident that there was a basic understanding of the functions of the iPad, but growth was needed utilizing the tool to support student-centered learning that includes higher-level thinking opportunities. There was an additional need to increase student engagement and time on task. In the study, *Systematic Design of Blended PBL* Yun- Jun An (2013) found that a lack of knowledge about learner-centered instruction is a factor that prevents teachers from creating learner-centered classrooms, even if they have a learner-centered philosophy. While the survey indicated that teachers felt they utilized technology to support learner-centered instruction, the survey results created a need for professional development at the school. Likewise, the student surveys indicated students needed to be introduced to iPads to expand their horizons and be given opportunities to showcase their learning.

After the surveys were analyzed and the necessary information necessary to create sessions was obtained, the candidate began to create physical resources for the professional development. In December 2013, the candidate began to develop a website to correspond with the capstone project. The [website](http://sgrahamipads.weebly.com) was created using weebly.com and served as a supplemental resource to the training. Due to the fact that the candidate found more information then could ever be used for the professional development, the organization done during the fall was beneficial in creating the sessions. While the vision the candidate originally had for the website was larger then the actual product, the candidate learned that in the ever expanding world of technology, it is imperative to stay focused and on topic. The website supplemented the professional development sessions the candidate implemented. It gave teachers a resource to promote engagement, creativity, and exploration in the classroom.

The core components to the [website](http://sgrahamipads.weebly.com) included professional learning resources and iPad management tips. The professional learning resources included links to lesson ideas, web resources, and PowerPoints used in the learning sessions. These resources were designed to be visually appealing and therefore desirable to use. Within these resources, emphasis was placed on providing teachers with additional links to facilitating a [21st Century Classroom](http://sgrahamipads.weebly.com/web-resources.html), the topic of [project based learning](http://sgrahamipads.weebly.com/web-resources.html), [lesson ideas](http://sgrahamipads.weebly.com/lesson-plans.html), [iPad basics](http://sgrahamipads.weebly.com/ipad-management.html), and [web tools](http://sgrahamipads.weebly.com/web-resources.html). The candidate chose these points of focus because they were touched upon in training sessions. They allowed opportunities for teachers to explore topics on their own time at their own pace. The section on iPad management specified resources the teacher could use to launch iPads in their elementary classroom. It contained the basics for implementing iPads in the classroom with a lesson plan, parent letter, and age-appropriate classroom rules. Teachers could print and go with these resources, which many teachers appreciated due to the immense amount of time it takes to create quality educational resources.

After the website was established, the candidate began to create [PowerPoint presentations](http://sgrahamipads.weebly.com/power-points-from-sessions.html) to enhance learning sessions. Information gathered for the PowerPoints was not limited to information on the website for the project. The PowerPoints summarized the training, but did not include all points of emphasis. The exploration from teachers, resulting in discussion and collaboration was intended on being the primary focus of the sessions. However, important websites, videos, and apps were included on the PowerPoints, which was intentional in case teachers needed to utilize them as they applied their knowledge and created lesson plans.

The candidate learned that a technology leader needs to learn to problem solve effectively. Due to the fact that the training PowerPoint contained a variety of fonts and graphics, the file size was very large. The file sizes exceeded the maximum capacity permitted by the free version of Weebly.com, so the candidate compressed the files in an attempt to reduce their size. This attempt proved to be unsuccesful. After trial and error, the candidate was able to transfer the files to Google Drive and insert a link in the webpage to the file in Google Drive instead of a direct file upload to Weebly.com. This proved to be a daunting, time-consuming task, but taught the candidate that patience and maintaining a clear focus helps one persevere.

The first session took place on January 16, 2014. The introductory session determined the purpose for student iPad use at Powder Springs Elementary. It helped the teachers understand how technology is ideally used in the 21st Century Classroom. The session also had participants decide on a pathway to ensure student engagement, achievement, and success. Teachers were able to collaborate on findings and reflect on conclusions. No iPads were used during this session, but teachers were able to understand the need for moving forward in the digital day in age and utilizing available devices to encourage student creativity, problem solving, and collaboration. Teachers concluded that they should create challenges and opportunities for students to use to accomplish tasks and solve problems. The emphasis of the capstone project was expressed to participants, for the candidate focused on the fact that students creating and constructing with technology was of primary importance. Teachers engaged in powerful discussion in this session, which turned into a lot of complaining and expression of frustration for all the work required of them. This was something the candidate did not expect and took the role of a leader by supporting student-centered learning. The candidate expressed the fact that society is moving forward into the digital day in age, and that educators must increase flexibility in order for optimal student learning.

The subsequent lesson occurred on January 23, 3014. It contained an overview of the iPad and general ways to utilize the device. Limitations and the school app policy were discussed, which resulted in the expression of concern from teachers. Teachers learned that they were not able to download apps at their leisure, for all control of the iPad carts was granted to the Media Center and the Media Specialist. Due to the fact that the Media Specialist was often busy and did not respond to requests related to the Media Center, teachers were concerned with the success they were going to have with utilizing the Media Center for iPads. Additionally, concerns arose when teachers realized they could not have students log into iPads and have individual user accounts. The candidate gave an overview of how everything was required to be deleted after each use of the iPad since the cart was shared. Teachers questioned the effectiveness of the iPad and also questioned the decision to make the purchase of the device if there was no efficient way to collect student data or work. The candidate expressed a desire for problem solving with the staff members and researched solutions to students saving work. The candidate learned a valuable lesson at this session, and realized the importance of strong and confident leadership. While the teachers raised multiple valid concerns, the session needed to continue with a positive outlook and outcomes needed to be met. The candidate went on to train teachers on how iPads could be implemented into the classroom, and shared a resource created for the session. An age appropriate lesson and suggestions for implementing iPads with elementary-aged students was reviewed with the teachers. Teachers participated in discussion that revolved around the fact that iPads are more then just apps- they are opportunities for student collaboration, communication, connections, and exploration. The discussion moved to iPad basics, and the candidate gave tips and instructions for managing iPads in the classroom. The candidate referenced the website that participants could visit to access the resources presented.

 The third session occurred on January 30, 2014. Teachers appeared be relieved during the session and because they were utilizing iPads and handling the devices. The candidate noted the need for less information and more exploration. Reflection occurred on the fact that teachers were able to truly understand the information of this session because they had an understanding of how the devices needed to be used in the classroom. The iPad as a creation tool was the point of emphasis in the training, so the apps presented in this session were creation apps. These apps included Doodle Buddy, Idea Sketch, Toontastic, Puppet Pals, Sock Puppet, Story Buddy, Story Kit, and Max Journal. The candidate introduced each app, summarized its basic use with the participants, and built in time for exploration. The candidate circulated the room and offered assistance on the specifics of the apps being explored. Teachers discussed possible lesson connections with each app in their small groups and shared them with the whole group as they went through each app. Following the collaboration and exploration, teachers were introduced to the process of lesson plan creation. The expectation during the training was that teachers would apply their knowledge gained to create lessons to use with their students utilizing the iPad as a creation tool. Teachers were able to work alone or in groups, and the expectation was clearly set for the teachers. The example lesson plan was beneficial because participants were able to understand the components required by administration at the school. The collaboration was beneficial to the teachers because they gained knowledge on the various apps and gathered ideas from colleagues.

The fourth session, which occurred on February 6, 2014, was similar to the previous one in the sense that apps were explored, discussed, and analyzed. The particular apps that were introduced, were MackinVia, Decosama Lite, Educreation, Vimeo, Pic Collage, 30 Hands, Cramberry, Tellagami, Animoto, Voice Thread, Skype, and Edmodo. After teachers took time to begin creating lesson plans, Edmodo was explored in detail. Teachers were able to make accounts and get a feel for how to create a post and maneuver the platform. In this session, the candidate realized that teachers were presented with possibly too much information. In addition to learning new learning apps and devising application opportunities in the classroom, teachers learned the tool, Edmodo. The candidate noted that there likely should have been a separation between Edmodo and the app exploration/ lesson plan creation. Teachers who sought out extra assistance learning Edmodo met with the candidate a week after the sessions were implemented to learn how to use it in greater detail.

The fifth session occurred on February 27, 2014. It focused on enhancing academic content and practicing skills utilizing the iPad. A quick review of apps and opportunities to ask questions existed. Teachers shared ways they were utilizing the creation apps in their classroom and expressed an increase in student engagement when using the tool. Teachers expressed they experienced less redirections in the classroom when using iPads and felt an increase in student motivation. Teachers appeared to be engaged with the introduction the candidate performed on Quick Response (QR) codes. The candidate prompted teachers to open the app, Red Laser, and to scan a QR code that was given to them. The candidate had teachers go through a lesson where they were to watch a video, and realized that the iPad is not compatible with Flash players as the teachers attempted to view the video. This mistake on the candidate’s behalf required the candidate to be flexible and professional. The teachers expressed concern with not being able to view all videos on the iPad, and the candidate validated the concerns. However, participants appeared to be excited to utilize QR codes with their students. Other apps that were explored in this session included various K-2 and 3-5 learning apps for content review. While teachers acknowledged that creativity apps were fabulous lesson enhancers, they noted the useful nature of content apps. Students who struggle with basic skills are often unmotivated and fall further behind without continuous interventions. The fact that many iPad apps could offer interventions to supplementing the learning of struggling students was promising to teachers. After the apps were created, teachers were prompted to create another lesson plan, combining a content app and a creation app from previous sessions. Teachers found that PowerPoint files uploaded on the candidate’s website were useful so they could access previous presentations and apps.

The final session served as a review session where teachers were able to share their successes and challenges with implementing iPads in the classroom, as well as their thoughts on the training. The candidate spent time exploring lesson plans and resources with the participants, ensuring they had the proper knowledge to extend their learning beyond the sessions. Teachers were prompted to create one relevant lesson plan at this session, and the candidate provided intense small group and one-on-one support. Teachers had time to explore and create with the candidate, which was a need they noted at the previous session. Teachers were overwhelmed and expressed a need for time to work with a coach to plan technology-embedded lessons. At the conclusion of the work session, teachers shared their results utilizing the devices in their classrooms. They shared what had been successful and unsuccessful. Most teachers explained positive experiences using the devices, but specific complaints occurred that dealt with the device itself. For example, students sharing or saving work continued to be an issue. Teachers expressed that they felt overwhelmed feeling with all the information presented in a short time span. They also expressed their gratitude for a patient, understanding, and realistic leader in the iPad trainings. Further support was offered from the candidate, and teachers expressed an appreciation for the website they could utilize to further their professional learning.

Overall, the capstone project went to plan. While some aspects were altered due to circumstance, as previously described, the overall purpose was consistent. Teachers were able to gain valuable information on using iPads in the classroom to positively affect student engagement. The areas that required manipulation was the extent of extra sources offered to teachers, as well as specific tasks teachers were asked to carry out. In the proposal, the candidate stated that teachers would carry out specific tasks related to the day’s training. The candidate quickly realized that the teachers were not going to feel comfortable carrying out tasks and wished to apply knowledge learned at the sessions specific to their classrooms. The candidate’s advisor, the assistant principal of the school, suggested that participants to email her lesson plans created at the sessions, so that she could see that they were implementing the correct type of higher order thinking activities in their classrooms.

At the conclusion of the professional development session, a summative survey was administered to participants to evaluate the success of the project. The teacher survey mimicked the pre-survey (See Appendix A). The results of the teacher survey are as follows:

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| --- |
| "I feel comfortable operating an iPad and its functions and can troubleshoot with ease" |
| Strongly Agree90% | Agree10% | Neutral0% | Disagree0% | Strongly Disagree0% |
| "I feel comfortable using digital tools like iPads to support student-centered learning" |
| Strongly Agree50% | Agree40% | Neutral10% | Disagree0% | Strongly Disagree0% |
| "Using iPads in the classroom affects the extent to which students are engaged in the learning process" |
| Strongly Agree40% | Agree50% | Neutral0% | Disagree10% | Strongly Disagree0% |
| "My students are engaged in the learning process using the learning tools that they have access to" |
| Strongly Agree50% | Agree40% | Neutral10%  | Disagree0% | Strongly Disagree0% |
| At what level of Bloom's Taxonomy are the technology activities that students are typically involved in? |
| Remembering50%  | Understanding 80% | Applying80% | Analyzing60% | Evaluating60% | Creating90% |
| On a typical school day from 9:00-9:30AM, what percentage of your students are on task/engaged in their learning? |
| 0%0% | 1%-25%0% | 26%-50%0% | 51%-75%40% | 76%-99%60% | 100%0% |
| On a typical school day from 9:00-9:30AM, how many times do you need to remind students to stay on task/engaged in their learning? |
| 1-4 times70% | 5-9 times20% | 10-13 times10% | 14 or more times0% |
| What do you like most about teaching with iPads? |
| * The instant gratification they provide students
* Student engagement
* The fact that they are fun and new! They meet students where they are at.
* They allow the students to take control of their learning within their environment. The technology is a part of their lives outside of the classroom and it is nice to allow them to use them for true educational gains.
* Students are excited to use them and are motivated to complete the lesson!
* The fact that students love them and are excited to use them to drive their learning.
* I really love watching my students create using this technology. It is amazing to see what is produced when imagination and technology are combined.
* Placing technology and the future of technology in the hands of elementary students
* Students are very enthusiastic about working with iPads. The level of engagement often increases. Also, students are able to become more fluent with technology.
* The fact that students are able to take the learning into their own hands
 |
| What do you like least about teaching with iPads? What issues, if any, do you feel need to be resolved for the iPad to be a more effective tool in the classroom? |
| * Students can easily get distracted and go onto other programs other then the one they are suppose to be on
* The apps cost $
* I find that the accessibility of them are not wonderful. Someone always has the cart checked out. I think if we had more practice with them we could use them more effectively.
* The fact that there is one user per iPad. The cost of apps. Since students share iPads they often leave pictures and such on them without even knowing it. It's hard to manage all this!
* A way to monitor students, perhaps a way to be alerted if the student is not in the correct app or on task. This would be a software issue or another app altogether.
* The students aren't able to save thier work and continue it in the next session.
* Not being able to have access to the App Store to download our own Apps. Usernames!!
* Turning in documents/assessment. We don't have the correct apps at our school for this, and the way that the iPad cart is managed (Media Cener) is not necessarily the most conducive to using them. In a perfect world, we would have more access to them and be able to download apps that we believe are beneficial to our student's learning.
* They are expensive and the fear of having a student break one is a reality. Also, it can be hard to monitor what students are doing while on an iPad, but there's and app for that. :)
* It is hard to assess student work quickly- saving work is a time consuming process. In order for them to be a more effective tool, we need better apps or a way to successfully get Apps. Using the Media Specialist is difficult because she is not always reliable.
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| In what ways, if any, do iPads encourage individualized, interactive, and/or project-based learning? |
| * There are numerous resources for anything imaginable
* I would like to do more with them then I do, but depending on the apps, the opportunities are endless! I just also wish I had more apps that are pertinent to my grade level. Students are able to be problem solvers and critical thinkers using the device.
* With the use of an iPad students are able to work at their own pace to complete a given task. They also meet the needs of our visual, auditory and at times kinestic learners. By allowing students the opportunity to authentically interactive with information, concepts and ideas the students will begin to process them and retain them for educational value. Also, iPads allow for a wide variety of apps and web-based tools to be used that promote project-based learning that is student-centered and driven.
* Students are able to use their own knowledge to explore and display their learning. It provides an interactive way for students to learn!
* Students are able to use their own style and knowledge to showcase their work in a manner that suits their learning styles and preferences. They are not constricted to a book or piece of paper.
* It is all hands on learning which demonstrates individual self learning
* Although students do not have a log in to save work, which would make them much more useful, the fact hat students are using an engaging device to take charge of their own learning is excellent
* Creativity from students
* Students are given a wider variety of tools to use to express their learning.
* It gives them the freedom of independent exploration through multiple avenues.
 |

Results from the student survey are as follows:

|  |
| --- |
| 1. "I enjoy learning with an iPad" |
| Strongly Agree100% | Agree0% | Neutral0% | Disagree0% | Strongly Disagree0% |
| 2. "I concentrate better in class when an iPad is used to help me learn" |
| Strongly Agree71% | Agree24% | Neutral5% | Disagree0% | Strongly Disagree0% |
| 3. "I would work harder if my teacher used the iPad in my classroom more often" |
| Strongly Agree62% | Agree29% | Neutral0% | Disagree0% | Strongly Disagree10% |
| 4. "I know that using technology like iPads gives me opportunities to learn many new things" |
| Strongly Agree24% | Agree48% | Neutral10% | Disagree14% | Strongly Disagree0% |
| 5. "I can learn many things when my teacher allows me to use an iPad" |
| Strongly Agree57% | Agree24% | Neutral19% | Disagree0% | Strongly Disagree0% |
| 6. "I feel comfortable using an iPad" |
| Strongly Agree 90% | Agree10% | Neutral0% | Disagree0% | Strongly Disagree0% |
| 7. "I can learn more from iPads then books" |
| Strongly Agree24% | Agree52% | Neutral5% | Disagree5% | Strongly Disagree0% |
| 8. "iPads are not difficult to use" |
| Strongly Agree86% | Agree0% | Neutral5% | Disagree0% | Strongly Disagree10% |
| 9. "It is important for me to learn how to use an iPad" |
| Strongly Agree90% | Agree10% | Neutral0% | Disagree0% | Strongly Disagree0% |

Based on the results from the summative assessment the overall outcome of the project was determined. The evaluation indicated that the project was a success, because each and every question showed growth. There was not one question on the student or teacher survey where the opinions dropped in favorability. Teachers gained knowledge on iPad use and implementation, and were able to motivate at students as a result. For example, The pre-survey indicated that 30% of teachers strongly agreed that their students were engaged in learning using the tools they had access to, and 30% agreed with the statement. After the training 60% of teachers responded that they strongly agreed or and 40% said they agreed to the statement. After collaboration, it appeared that the teachers who did not strongly agree with the statement felt that way because of behavioral concerns. Teachers indicated they had students who would not do the projects assigned but would misuse the device by being silly with pictures and going on apps not a part of an assignment. This resulted in consequence for the students, and as a result, higher order thinking opportunities were missed.

One particular question that the candidate noted that teachers had similar responses with, but the interpretation of the question was too broad, was “At what level of Bloom's Taxonomy are the technology activities that students are typically involved in?” In the pre-survey, 50% of participants selected they had students creating products utilizing technology devices. The post survey indicated 90% of the participants extended student thinking by having student create products. The candidate realized that during instruction, the teachers did not have a good feeling for creating products using devices. Teachers of primary grade levels often indicated that they had students copy written products on a word processing software. They were having students execute or carry out information in a familiar setting. Teachers were not using Web 2.0 tools or asking students to apply their knowledge to a new situation. This was clarified in the trainings when the Blooms Taxonomy Verbs were reviewed and applied towards technology.

As far as the student survey, the evaluation showed growth. Due to the fact that Powder Springs Elementary is a Title I school, a large amount of students live in poverty. Their exposure to costly technology tools is minimal in their home environment. This is indicated in the pre-survey, where 59% of students indicated that they felt comfortable using an iPad. The post-survey indicated growth after students had opportunities to use the device. 100% of students expressed they felt comfortable with the device. Results from the pre-survey indicated that many students did not consider the iPad to be a tool for learning. Results were varied across the question set, indicating that many students saw the iPad as a entertainment source rather then a learning device. This changed in the post-survey. For example, 28% of students indicated that they “strongly agreed” or “agreed” with the statement, “I can learn many things when my teacher allows me to use an iPad” in the pre-survey. 81% of students responded favorable to the statement in the post-survey.

The purpose of the capstone project was to help teachers develop awareness and competency in utilizing digital learning tools in their classroom. Student and teacher competency, attitude, and engagement using iPads were apparent based on the project’s evaluation. To continue development, participants were encouraged to regularly check out the iPad cart to enhance student learning. They were also encouraged to collaborate with their grade level and the candidate. Additionally, participants were instructed to use the supplemental resources available on the candidate’s website to further professional learning and enhance their daily lessons. Additional training to include more staff members in training was planned on being established in Fall 2014 at the school. Plans from the school’s administration to purchase additional iPad carts for more frequent classroom use and ease of access were made.

**Discussion and/or Reflection:**

The capstone project resulted in the candidate obtaining growth and knowledge in technology facilitation and leadership. The project allowed the candidate to further understand the knowledge, skills, and dispositions that are required of a technology facilitator or leader. The project resulted in the candidate researching pertinent information, designing a website and professional learning sessions, and exploring various websites pertinent to the projects. This resulted in direct application of knowledge to teaching others. After deciding on the primary focus for the capstone project, the candidate believed that the wealth of resources available in the world of educational technology would be simply applied to the professional learning sessions. The candidate believed that the sessions would flow sequentially, and that teachers would be open and receptive to the new technologies at the school. Challenges immediately occurred, for it proved to be immensely difficult choosing the right information to train staff members. The candidate wanted the training to be at the participants’ level, providing information that was not too basic or too advanced. Due to the differing needs of all participants, this proved to be a challenge even with a pre-survey administration. In order to effectively facilitate the sessions and accommodate all learners, the candidate encouraged collaboration and small group work, so that more individualized support and dialogue occurred. The candidate promoted grade level collaboration, so that teachers could offer each other basic support. This allowed time for the candidate to extend learning and accommodate individual needs relating to the technology.

The candidate noted that a great deal of the individualized support turned into expressions of concerns about the actual device and school policies out of the candidate’s control with the device. Many teachers were not as focused on how they could use the technology to extend and enrich instruction, but spent time and energy complaining about issues out of their immediate control. The candidate quickly found that in order to be an effect technology leader, it would require a great deal of time and effort to gain the trust and buy-in from the participants. It would also require supporting the school that was being represented. While teachers in the sessions brought up valid concerns, the candidate displayed consistent leadership, offering opportunities for future solutions. The candidate also used the concerns as a platform to grow, and was able to gain trust from the participants in gaining their confidence. For example, the participants expressed concern with the fact that iPads cannot accommodate individual learners and that users are not able to quickly save work to transfer from multiple learning sessions. The candidate noted this, and discussed possible solutions like utilizing learning management systems like Edmodo or a cloud storage system like Dropbox. The candidate looked upon the situation an opportunity to take learned knowledge about change theory and media design to devise a solution. After researching media design and instructional design during graduate studies, the candidate effectively changed certain aspects of the project to meet the participants’ needs. The candidate became an expert on and provided additional training using Edmodo and contacted the appropriate parties about adding cloud storage apps to the iPad. While the candidate was unable to have the school staff member in charge of adding apps help create a solution, the candidate did not express this frustration with the participants. The candidate believed it was important to maintain a positive attitude and work towards a solution, not focus on a problem that was difficult to solve. The candidate recognized an increase in respect from the participants, who felt comfortable expressing concerns. This enriched the relationship between the teachers and the candidate, and ultimately allowed them to devise solutions together.

This learning relates to the knowledge, skills, and dispositions required of a technology leader in many ways. This experience allowed the candidate the opportunity to experience how a technology coach models, designs, and implements a technology-enhanced learning experience to address the diverse needs and interest of all students. The candidate created learning sessions to enrich the knowledge of teachers and allowed teachers to extend their knowledge in creating and devising new lessons to utilize the technology. The candidate also promoted collaboration by encouraging teachers to share and discuss best practices as well as application techniques for newly acquired information. The candidate created and supported effective digital-age learning environments, which included: modeling effective collaborative strategies to maximize teacher and student use of digital tools, maintaining and managing a variety of digital tools, troubleshooting basic software, hardware, and connectivity problems, and collaborating with teachers to evaluate and select digital tools and resources to enhance teaching and learning. As a result, the candidate gained the knowledge on the iPad, was able to increase communication skills, and maintain a positive attitude with teachers at professional development sessions.

The candidate effectively conducted a needs assessment to develop the technology-related professional learning programs. In order to figure out what areas needed to be strengthened, the candidate needed to gain the pertinent skills to create and implement learning sessions. Additionally, the candidate evaluated impact on instructional practice and student learning by conducting a pre and post survey with the students in a classroom of a teacher receiving technology-related professional development. The learning sessions not only required the candidate to design, develop, and implement a technology-rich professional learning program, but also modeled principles of adult learning to promote digital-age best practices in teaching and learning. Throughout the entire process and implementation phases, it was imperative that the candidate model, facilitate, and promote the safe, healthy, legal, and ethical use of digital technologies. Learning sessions were created to promote this and included useful teaching materials. The capstone experience resulted in growth in knowledge, skills, and dispositions to have the candidate become a technology facilitator or leader.

At the conclusion of the professional learning sessions, the candidate reflected on the capstone project. The candidate spent a large part of the 2013-2014 school year preparing for the project, seeking a solution professional learning with iPad devices at Powder Springs Elementary. The candidate struggled compiling the best resources for the project, noting that technology is ever changing and resources that are beneficial one day may be dated a week later. As the sessions were conducted, the candidate became concerned that teachers were not really benefitting from the sessions, because verbal complaints were oftentimes more apparent than inspiration and application. However, as the candidate reflected on the lesson plans that teachers created and listened to the great things that teachers were doing in their classroom, the candidate realized that the positive mindset and quality resources really helped teachers with the implementation of iPods within classrooms. The candidate learned that in order to be a truly effective leader, one needed to maintain a positive outlook and philosophy.

One particular aspect to the professional learning that received praise, were the topics discussed during the training. The participants noted that they learned a great deal of pertinent information they would be able to apply to the classroom. Teachers verbally expressed that they felt encouraged and supported throughout the process and received resources they could refer to in times of need. Teachers also expressed an appreciation for time to collaborate about apps and work on lesson plans at the sessions. They felt that their time was used effectively and that they were not just listening to a speaker, but actively engaged in sessions. This was something that the candidate especially noted as the candidate reflected upon the experience.

The candidate also noted that there was some room for improvement in the sense of providing solutions to certain issues that participants experienced. The candidate was able to provide assistance with generating ideas for implementing iPads in the classroom, troubleshooting with the device, and properly integrating technology in the 21st Century classroom. Any issues teachers had with actual device management and checking out of the iPads proved to be out of the candidate’s control. The candidate felt as though a better job could have been done in regards to helping with individual grade level plans. After learning that many of the teachers felt as if they would have benefitted from unit plans using the devices instead of lesson ideas, candidate acknowledged the fact that this would have been time consuming, but practical.

If others wish to attempt to address a similar need and problem with collaboration within their school, the candidate would offer advice and recommendations. First, it would be recommend that the person spend a great deal of time becoming an expert in the area of study. Not only should the person be an expert on the devices, but should have a strong knowledge of the material they wish to present. This includes application ideas and uses for technology integration in the classroom. The person should also present material in a longer time frame than what the candidate chose, which was every other week. The candidate felt that the increased frequency in a short time span would help teachers implement technology and have continuity between sessions. It proved to be the opposite, and teachers simply felt overwhelmed with the timeline of sessions.

Additionally, during the sessions, the trainer should be aware of possible problems that may occur utilizing the devices, and be aware of solutions to those problems. This has a direct relation to the amount of confidence the participants have with the presenter. The trainer is also recommended to ensure an electronic resource was available to supplement the trainings. This enables the learning process to be extended. The person who wished to address this similar need should also remain positive and professional at all times. An effective technology leader and facilitator takes the time to access a situation and determine the best possible outcome, instead of overreacting or focusing on the setbacks. The leader should persevere by remaining positive and providing encouragement. This ensures all participants taking on the same disposition, and results in a positive change as well as a solution to a technology related issue within a school.

References

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Appendix A

Teacher Survey (Pre and Post)

<https://docs.google.com/forms/d/10_yTEU_MM2WpIYggVKr5dTz3Q2TUrEcAkSakSYMBJ2s/viewform>



Appendix B

Student Survey (Pre and Post)

<https://docs.google.com/forms/d/1S1hEcmHhtFvlJ2CuPUC9BR4xk9AxSaNWVhmLRYb6KTI/viewform?usp=send_form>

