Technology’s Influence on Student Comprehension

Jessica Clar
St. John Fisher College, jac02638@students.sjfc.edu

Follow this and additional works at: https://fisherpub.sjfc.edu/education_ETD_masters

Part of the Education Commons

How has open access to Fisher Digital Publications benefited you?

Recommended Citation

Please note that the Recommended Citation provides general citation information and may not be appropriate for your discipline. To receive help in creating a citation based on your discipline, please visit http://libguides.sjfc.edu/citations.

This document is posted at https://fisherpub.sjfc.edu/education_ETD_masters/347 and is brought to you for free and open access by Fisher Digital Publications at St. John Fisher College. For more information, please contact fisherpub@sjfc.edu.
Technology’s Influence on Student Comprehension

Abstract
This research question asked how can technology influence students’ comprehension? Research was conducted in a first grade classroom. The data was collected by a student focus group, student work samples, rubrics, and teacher field notes. Findings revealed that students are engaged while using technology; however they are just as engaged when involved in a traditional read aloud. As for reading comprehension students’ showed an increase in achievement when using the smart board as the primary source of instruction. Overall, data shows that teachers should implement technology in the classroom to promote student participation as well as increased achievement.

Document Type
Thesis

Degree Name
MS in Literacy Education

Department
Education

First Supervisor
Joellen Maples

Subject Categories
Education
Technology’s Influence on Student Comprehension

By

Jessica Clar

Submitted in partial fulfillment of the requirements for the degree
M.S. Literacy Education

Supervised by

Dr. Joellen Maples

School of Arts and Sciences
St. John Fisher College

August 2015
Abstract

This research question asked how can technology influence students’ comprehension? Research was conducted in a first grade classroom. The data was collected by a student focus group, student work samples, rubrics, and teacher field notes. Findings revealed that students are engaged while using technology; however they are just as engaged when involved in a traditional read aloud. As for reading comprehension students’ showed an increase in achievement when using the smart board as the primary source of instruction. Overall, data shows that teachers should implement technology in the classroom to promote student participation as well as increased achievement.
Technology’s Influence on Student Comprehension

In education, and schools everywhere there is no denying the fact that main goal we want for our students is to have them become well rounded citizens. They must be academically, socially, and emotionally ready for any adversities that they may endure throughout their educational and worldly journeys. There is no one right answer on what is the single most important thing we can teach to our students or what techniques and strategies will be the most beneficial. There are however, some tools that teachers can use to ensure that they are helping their students strive to meet their full academic potential. This tool is through the use of newer technologies that are being used in classrooms. This term is specifically known as new literacies. Lankshear and Knobel (2010) refer to new literacies as “socially recognized ways of generating, communicating, and negotiating meaningful content through the medium of encoded texts within contexts of participation in discourses” (p. 64). Teachers no longer view literacy in the tradition way of read a louds through paperback books, and paper-pencil responses. In classrooms all over America there has been a large push for the use of technologies to drive teacher instruction, as well as a tool for the students to use and self-teach. In the present culture that we live in our students are surrounded by technology every day. Most of the time, some students even know more about the technologies in their classroom than the actual teachers do. New literacies give the teacher to student relationship an entire new dynamic. The student can now use technology as an opportunity to teach one another, enhance their own learning, and show the teacher the ways that they can use technology to enhance their learning (Jones & Brown, 2011). With that being said, technology is something that truly excites our children in school, and acts as a major contributor to their motivation toward instruction.
As educators it is our job to discover and implement new instructional strategies that our students will find beneficial to their learning, and truly connect with on a personal level. Teachers have found that technology is the way to connect with students while offering high content based instruction through all content areas. These technologies range from the smart board, to iPads, computers, and the use of e-books, iPods, blogs and other variations of new literacies. This new wave of student learning is sweeping through schools, and teachers are becoming aware of how crucial it is to implement technology into their instruction. The main goal for schools is to make students become college and career ready. Since our society is constantly changing and new literacies is the primary discourse in not only schools, but in most workplaces it would be detrimental to our students if we did not provide them with the opportunity to use technology within classrooms.

The use of multiple technologies is becoming almost a mandatory tool to facilitate and drive instruction within classrooms. Children at a very young age are being exposed to different types of technologies. Most children own an iPad, or smart phone. Children will follow their own desires and passions, and while doing so they are developing their own set of skills; and because of this they are driving their learning and text production (O'Mara & Laidlaw, 2012). Since children are dependent on technology to inquire information and learn new things it only makes sense that they are able to use their dominant skill set in schools. When teachers are able to add tools that students are more familiar with they become instantly more engaged because they have had previous experiences that they can connect it to. New literacies are truly a powerful integral learning tool for promoting all components of social, cognitive and linguistic development of children and ultimately impacting with academic achievement (Couse & Chen, 2010).
By further exploring the topic of the influence technology has on student comprehension will help students achieve success within school, as well as prepare them for the future. It will also give teachers a closer insight to whether these new literacies have an impact on students, and how they can use it effectively within their own classrooms. There are few classrooms now that do not have some sort of technology such as a smart board, iPad, computer etc. that are available to students on a day-to-day basis. Technology in addition to helping support students’ primary discourse can also support them in developing new strategies that will support their overall literacy skills. With the extra supports such as voice-overs, online immediate dictionaries, highlighting words as they are read so students can keep track of the narration all promote student success with literacy. When using such features it takes the pressures off the students to decode word by word and allows them to focus on the overall contextual meaning of the text (Ciampa, 2012).

Teachers must be mindful when thinking about what resources to use within their classrooms and to drive their instruction. We live in a world where technology is becoming the majority of the population’s primary discourse, and most used tool. Educators need to be ready, willing, and knowledgeable about how to use these new literacies in a way that benefits the overall needs of their students.

The main question of this research paper asked, how would technology influence students’ comprehension? By incorporating technology into instructional practices teachers’ will be able to connect with and engage students at a higher level, which will ultimately affect their overall comprehension; allowing them to be successful in school as well as the workplace. The theoretical framework was based on the idea that new literacies are everywhere as well as ever changing. Students must be able to apply these new literacy skills to collaborate as well as create
authentic learning experiences which will enable them to become successful. The methods that were conducted were rubrics to assess student engagement, student work samples, and a student focus group. The findings and implications show that student engagement is increased when technology is used within the classroom, which leads to higher participation and overall understanding of the content. Technology not only has a powerful impact on student engagement, however it also acts as a differentiation tool for all students to become successful learners within the classroom. Lastly, teachers must realize that technology is a necessary skill in all areas of life, therefore it is crucial to implement it in everyday instruction to overall benefit student success for college and the workplace.

Theoretical Framework

When thinking about literacy as a whole many different ideas, theories, practices, and strategies come to mind. These are all of course are being used to promote student success within any content area. We know that literacy surrounds us in our everyday activities, and is the fundamental building blocks on which education rests. In previous years it was thought that literacy was strictly reading and writing. We now that that literacy is so much more than just reading and writing and it used in our daily lives in school or the workplace. Although reading and writing are a major part of literacy still, it is shifting toward using technology to help drive instruction and further enhance the way we teach our students literacy.

Literacy can be described in many different ways according to many different people. According to Gee (1989) defines literacy as a “control of secondary uses of language” (p. 23) whereas discourses are the ways of using language, and the way that one acts and thinks within ones community in which they can identify themselves. Lankshear and Knobel (2010) have a
similar view on what literacy is as Gee. According to them, literacy is “socially recognized ways of generating, communicating, and negotiating meaningful content through the medium of encoded texts within contexts of participation in discourses” (p. 64). When thinking of our culture today it is obvious that it has become more of a social practice, and we are dependent on technology and the advances it gives us such as the communication through e-mails, instant messaging etc. So, in schools we have implemented the use of more technology such as computers, iPads, smart boards, computers and more.

When children are born they are not created with the knowledge to immediately articulate and decode text. It is the parents’ job to supply their children with the necessary building blocks are crucial to their learning. These are things such as making their children aware of different texts such as books, and different print around them. However, in present culture those texts have been traded for iPads, smartphones, and computers. Although these are not the traditional forms of print children are still becoming aware of a certain type of discourse. Educators must be aware of this new change in literacy so they are ready to teach children in a way that they are familiar with. According to Kucer (2009) literacy acquisition can be greatly impacted by multiple cultural variations. Students come to us from different social backgrounds, and different strategies of acquiring information. A student's background and prior knowledge can greatly affect the way they absorb certain material, and the capacity in which they learn. Hence, teachers' must be aware of this large impact, and how it affects their students.

Since technology is so important to our students, one theory that lends itself well to this new turn of instruction is the theory of new literacy practices. Literacy is no longer an individual quest, however it is one that is evolving into a social and cultural practice. The purpose of new literacies is to build on one’s knowledge and help them focus on becoming participants within
their learning process. Since literacy is continually changing, and becoming more future friendly; as literate persons we must adapt to these new changes and become flexible when learning, and experiencing these new literacies. It plays a role in everyone’s daily life, and now without technology it would be foreign for the average person in today’s society to get by without it. Lankshear and Knobel present new literacy perspective to push educators to think about what a wonderful advantage technology can have on our students to shape their future worldwide views and practices (p.15). This theory challenges educators to use these new literacies within their classrooms to drive reading, and writing instruction to help students create meaningful responses in which they communicate through iPads, iPhones, smart boards, computers etc. By having these various devices available to students within the classroom we are connecting to their primary discourse, and allowing them to practice the skills that will help them succeed in the future.

Another theory that helps clarify how technology can influence student comprehension, as well as goes hand in hand with new literacies perspective theory is the sociocultural theory. This theory by Larson and Marsh (2010) defines the learner as “an active member of a constantly changing community of learners in which knowledge constructs and is constructed by larger cultural systems” (p.100). Since our culture is constantly evolving, as educators we must stay updated and continually learning on what the new and improved strategies that will benefit our students are. We expect our students to be lifelong learners, so as role models for our students we must do the same and provide them with the opportunities that will help them succeed. Teachers must provide and are challenged to provide their students with a community that fosters a meaningful learning environment, and pulling from multiple teaching strategies such as those that are socially, culturally, interactive, and historically beneficial. Students’ need the correct
skill set, as well as be able to determine which specific skills are needed to complete a specific task in today’s literacy filled world. In order to do this, teachers’ must provide instruction in which students’ are able to collaborate with one another using hands-on activities. Teachers’ must push their students’ to be critical thinkers by asking them to solve real world problems. By using all of these techniques students as well as teachers’ will be able to reach students’ on a more personal as well as academic level which in return will truly connect the students’ to their learning.

Research Question

Given that students live in a technology based world, and a world that revolves around the practice of new literacies, this action research project asks, how can technology influence students’ comprehension?

Literature Review

Before conducting an action research study based on whether or not technologies influence student comprehension, a review of literature needed to be written to find scholarly studies that support the topic being researched. The literature review below reviews and analyzes the effects that technology has on our students today inside as well as outside the classroom. There are going to be three different themes that this review discusses. The first theme that will be discussed is how technology effects student engagement. Student engagement is directly correlates with how students’ are able to participate within class, and if they are able to remain focused throughout instruction when technology is implemented. The second theme that is going to be discussed is the importance of motivation directly relating to technology. As we
know in education, motivation is a major contributor for any content area in schools. This theme will directly look at how motivation is increased due to technology. The last theme that is being discussed within this literature review is technology’s impact on literacy. After taking a look at the first two themes around engagement and motivation, it is clear to see how technology effects each, and the benefits that are presented to students. However, the last theme will look at how technology more specifically helps or possibly hinders students to achieve literacy success especially focusing on comprehension.

**Technology Affects Student Engagement**

The students that come to us today are living in a 21st century world in which technology is not just a new innovative tool for them to use to acquire a stronger base of knowledge, it is their way of life. In schools today there is a major push for educators to be aware of the fact that their lessons must not only reflect the thoughts of their district beliefs, as well as the specific state standards at hand, however students need to be engaged throughout instruction. When students are not interacting with the content of instruction they will not perform well, and begin to lose focus easily.

In a study that mainly focused on literacy instruction with digital and media technologies, researchers Barone and Wright found that student achievement and engagement spiked when these new literacies were implemented in their daily instruction. Barone and Wright (2008) state that:

*What makes today’s kids really sit up and fires their neural fibers? Technology. Kids don’t see laptops, MP3 players, cell phones, PDA’s, DVD players, and video games as technology, it’s just life. Schools need to connect education to their students’ lives with technology.*  

(p. 298)
Through the use of new literacies students will become more engaged in their learning. Technology is a way of life for our students. It is their primary discourse, and if they are not able to apply their interests and native learning style within a school setting they will become disengaged. Lankshear and Knobel (2010) also believe that discourse plays a large part into a child’s literacy development. They state that literacy stands as the “socially recognized ways of generating, communicating, and negotiating meaningful content through the medium of encoded texts within contexts of participation in discourses” (p. 64). This means that although literacy has a different meaning to each individual and may not have an exact “definition” there is a common theme that literacy is socially and culturally based. When students can use what they know and have been brought up with from their home-life into the classroom their interest and prior knowledge will be. Literacy is ever changing, and as educators we must be able to adapt our teaching styles to best support our students interests and needs.

Since technology is such a crucial element of our societies learning we must implement it within our instruction. Couse and Chen (2010) support this same idea by concluding that since technology is evolving rapidly, as educators we must explore the new tools that are being presented to us. One example of a modern instructional tool is different types of tablets. These sources of technology foster student participation as well as add a different dimension of literacy. When our students are able to use technology as a supplementary learning tool to aid their natural discourse they are not only engaged; however they are strengthening their literacy skills. Larson (2010) concurs by also pointing out that these new literacies truly extend the connection between engagement and overall student achievement. The students are expressing their enthusiasm by showing interest through their positive responses to reading. In other words, when students feel that they are able to personally connect with the instruction it alleviates the
pressures of higher-level work. In the study that Couse and Chen (2010) conducted while looking at the benefits that tablets have on early childhood education they found that even though many children experienced a few technical difficulties throughout the lesson, they were able to persevere through the problems with ease showing little to no frustration. In classrooms today that is such an important piece of learning that we must teach our students. Throughout any type of instruction or life situation they must be able to preserve through issues and become problem solvers. By using new literacies students are able to practice this important skill set while simultaneously being engaged with the instruction at hand.

In a fourth grade classroom technology (laptops specifically) was a major contributor to student instruction. From a study observed by Barone and Wright (2008), they were able to showcase how a teacher used instant messaging as a means to implement student participation/engagement within the classroom. The students were able to share their thoughts, ideas, and answers to their assigned instant messaging partners. Through the use of instant messaging the sense urgency was provided to the students by quick feedback, constant communication, and ultimately a raised level of engagement. These various forms of quick and convenient communication further proves Larson’s (2010) sociocultural theory. Students are able to create a collaborative environment that not only fosters the way we are communicating with each other to become more literate but they are simultaneously doing it through the use of new literacies. Since we live in a world of quick response, and immediate reaction students are accustomed to this fast paced life style. With the use instant messaging students are able to obtain this same style of living within their own classrooms. Jones and Brown (2011) also support this idea of immediate form of support and raised engagement through the use of different amenities that new literacies can provide. When students are using technology they
have the ability to use pop-up definitions, voice-overs, automatic turn pages, pronunciation of words etc. to help build constant participation and engagement with the text. These new literacies are providing students with differentiated learning, so every student can be engaged with the text at hand.

Since engagement is such a key to success in our schools, Enriquez (2010) argues that the idea of traditional instructor centered learning is long gone, and research shows it to be an ineffective learning environment for students. She continues to state that active participation and interactive learning models are the most effective way for students to become engaged and achieve higher in schools. A portion of the study focused on the positive attitudes that students demonstrated while using tablets. Students displayed increased attentiveness and focus, ability to obtain quick assistance which in return lead to reduced frustration, and overall a more positive interaction between student and teacher. When students are able to feel excited about their learning, as well as how the material is being presented in a way that makes them feel confident in their abilities they are ultimately going to participate more. Dale and Pymm (2015) have this same idea by looking at the use of iPods within the classroom. They found that technologies (such as the iPod) lead to a sense of “self-empowerment and autonomy to the individual” (p. 93). By using technology that students are familiar with it creates a very encouraging learning climate for students. Through the use of the technology the students feel as if they can take a more creative approach to their learning, and think more critically about the subject matter at hand. Enriquez (2010) supports that same idea by explaining that when students are in control of their learning it leads to higher participation. A specific statistic took from the study also validates that theory by showing the number of absences/times students skipped class in an interactive learning group (ILN) versus those whom were not involved in an interactive learning group.
Those who were a part of the ILN averaged a number of two point three days absent compared to those who were not a part of an ILN group who averaged seven point five days absent. Another statistic that demonstrates the engagement of students who were a part of the ILN, and non-ILN group show the amount of time spent on assigned tasks outside of the school day. Those who were a part of the ILN group spent an average of six point eight hours per week, whereas the non-ILN group only spend five point four hours per week. Through these statistics it is easy to see that student engagement through the use of technology truly empowered students to perform with not only positive attitudes, however they demonstrated stronger work-ethic as well.

When discussing student engagement and work ethic researchers’ Enriquez (2010), and Dale and Pymm (2015) found that there are a few commonalities and various factors that play a large role. One of which is how students can engage in instructional technological activities inside and outside of the classroom. O’Mara and Laidlaw (2011) look deeper into this idea through a study which looks at young children in out-of-school settings and how they engage daily with technology as well as the affects it has on them. They have found that in fact children do interact daily with technology, and even implement it in their play. O’Mara and Laidlaw quoted a parent from the study:

Our children were playing at the dollhouse and the 3-year-old realized that a tiny pretend laptop was missing. After everyone looked around for a bit, he returned to play and sat the mother doll at the computer desk. She’s going to Google to find out where the little computer is. (p. 153)

By looking at this quote it is easy to see that even in the earliest years of child development technology is a key component to their learning, play and lifestyle. For children, one of the largest problem-solving strategies is turning to technology. Since it is so accessible to most
people it is the most efficient way to obtain necessary information to help us throughout our daily lives. When students are able to use technology within the classroom it feels natural to them and comfortable. In a similar study conducted by Davidson (2009) results showed that the use of technology in both classroom and out of classroom settings provided students with a strong sense of engagement. He concurs that this new multimodal world that we live in directly affect how students especially in the early emergent stages of literacy experience meaning making much differently to that of strictly print based texts. Clearly, the shift in how we engage students and provide quality literacy instruction is such a significant change in the way we have viewed education and reading instruction in previous years. The students in our classrooms have a whole other discourse and skill set than those children who were learning these same skills 10 to 15 years ago. Students are now developing new strategies that enable them to acquire an overall understanding or meaning of the text rather than decode and decipher. All of these new strategies are being presented in schools through the use of new literacies. The demand for the use of new literacies is especially true for our elementary students who are surrounded by technology daily, and when implemented into instruction they see it as a game almost.

Cumming and Rodriguez (2013) present this same idea when examining the use of iPads in a special needs elementary classroom. Many of the students were excited to complete academic work on iPads simply because they felt they were easy to maneuver, and the pictures excited them to continue to stay on task. Teachers agreed and felt that they had to prompt students less to make sure that they were staying on task and working toward their goals.

Engagement is a crucial piece to success in any aspect of life. When looking specifically at education we must find a way to hook our students into making personal connections with the content and instruction. Through the use of technology teachers are able to reach out to more
students. Being a part of society today means constantly needing the ability to be flexible and adapt to new situations. As educators we realize that it a natural part of life, so we must be willing to apply that same strategy to our classrooms for our students. By allowing the use of technology in the classroom we are allowing students to feel more at ease by allowing them to use what they know best to solve problems, think crucially, and become lifelong learners.

**Motivation Increases Due to Technology**

Educators know many beneficial strategies to help students become successful, well-rounded, lifelong learners. We want our students to have an intrinsic desire to perform well academically. When students are able to motivate themselves to persevere through difficult problems it truly enables them to become a stronger learners. Research has shown that technology is a major contributor to the motivational increase in students. Research has also shown that motivation is a critical component to student success. The motivational factor is not only true for just the students at the elementary level. However, students in all grade levels elementary, middle, high school, and even collegiate levels have shown an increase motivation when they are able to use new literacies within the classroom. Yet another major motivation factor aside from connecting students to their primary discourse and out-of-school experiences, is it helps struggling readers. New literacies have the convenience of offering multiple aids to support students with their learning, ultimately making literacy instruction a positive experience and increasing their motivation.

McQuillan, Northcote, and Beamish (2015) verbalize their belief in which “Technology, when used effectively, has the potential to contribute to the creation of effective learning environments and can greatly assist educators in their efforts to obtain and maintain students’
attention, and improve student achievement” (p. 7). When taking into consideration on how important student motivation directly correlates with student success, it is clear that schools must obtain materials and tools that will aid teachers in finding supports that will allow them to make this gain. New literacies is the way in which students can feel connected and motivated to their instruction. Ortlieb, Sargent, and Moreland (2014) support this claim by explaining that it is the teacher’s job to make sure they are connecting to the students on a personal level to create an authentic learning experience. The different tools that can be used to make these gains in student motivation and student success are those that come from new literacies. When students are able to take their in-home literacy practices and apply them to in-school situations they will then feel more comfortable from these previous experiences. It is an educator’s job to make sure that they are connecting the student’s literacy practices in, and out of school.

One strategy which provides students with the opportunity feel motivated and connected to their instruction is to acquire knowledge through authentic learning experiences. Students are motivated when they know that what they are learning, and how they are learning can be applied to real life situations. Students learn by doing. According to Lombardi (2007) an authentic learning experience can be described as one in which students are being asked to construct meaning to produce knowledge, use inquiring strategies to produce meaning, as well as reflect and discuss ideas found all of which are revolved around real-life problems, and problem solving strategies. One way that teachers often incorporate authentic learning experiences within their classrooms is through the use of technology. Since our students are using it in out of school settings to problem solve and become well rounded citizens it only makes sense that it is used for education purposes as well. Using technology as part of our daily pedagogical practices offers our students with the opportunity to motivate them through authentic learning experiences.
Carey (2005) supports this idea by stating “students develop this competency through integrative learning which fosters students’ ability to make connections between new and existing knowledge, skills and experiences, needed to respond to changing needs of society” (p.69). By allowing students to be exposed to such new literacies they are able to connect it to their personal lives, and enables them to work with ease. By allowing students to use tools that create mobility between home, school, and the workplace it ultimately effects their motivation causing it to increase, which in return creates increased student success. Student motivation and their attitudes toward instruction have been major topic of discussion in the education world. In addition to the idea of making sure that students are offered the opportunity to make those connections Hess (2014) also points out that the term “disengaged” learner has been one in which describes our students today. She goes on to state that one of the largest motivators to encourage our students to want to read is to simply provide them with the experiences that will connect their in-class experiences with out-of-class ones. When teachers are able to do so interests and motivation increases which again, directly effects student achievement.

Research shows that motivation can be manipulated through various types of instructional practices. As long as there is a motivation element woven into a teacher’s instructional practice students will not only succeed; however they will want to succeed. Falter (2015) claims that there are five different domains of self-motivation that instruction must obtain in order to be effective.

One of the domains is the “self-worthy theory” (p.28). This theory states that students must feel that they can accomplish the tasks at hand and feel confident within their abilities to do so. Enriquez (2010) proves the self-worthy theory to be valid from her results gathered within her ILN control group. Through the use of technology, student quiz and homework scores
increased by not only the way the students were able to learn the new material through technology, but how they gained the confidence and motivation which allowed them to be successful, as well as feel prepared to complete the tasks at hand.

Falter (2015) presents the second domain, which is the “locus of control” (p.28). Within this idea students must be able to understand the concept that they are the ones who are at the forefront of their success within situations, as well as their failures. Pittman (2003) states that students have many approaches to learning, and that they alone are the only ones able to make the critical decisions that will directly affect their academic growth. Teachers are there to help guide; however students must be able to problem-solve on their own and be responsible for those actions. Pittman goes to further say that technology enables students to be “intellectually playful” (p. 274), open to new learning tasks, and take the necessary risks to be successful without frustration. In other words, students must be able to take responsibility for their own learning. Although teachers are there to help guide students throughout this process, we must supply our students with the skill set to do so independently. Through the use of new literacies implemented in our classroom teachers will be able to help students self-direct and motivate themselves to be responsible for their own learning.

The third domain is the “control-value theory” (p.28). This element talks about the notion of cause-and effect. If a student has as preconceived idea on how an action will turn out and what the likelihood of that outcome will be (especially if it is a negative one) has a major effect on student motivation. The control-value theory insists that students must be able to accept challenges as they come and not dwell on the predicted result. Couse and Chen (2010) support the idea of the cause-and-effect theory through their observations when looking at students who were working with tablets. The students were able to see the end result of their
work, and had an idea of the outcome that would happen. Since the children had familiarity with
the technology that was being presented to them (or technologies that were similar in
comparison) they felt more comfortable using them and taking risks. They were aware of the
outcome that was going to be produced and were able to connect the in-school task to tasks
similar to them in their personal lives. Since the students were able to be a part of such a strong
authentic learning experience they were able to persevere through the task. Since the students
were demonstrating such perseverance with the instruction at hand through the use of tablets they
were able to complete the work with ease. Couse and Chen point out that they did have a few
issues that arose, however since they were motivated through the use of technology and had their
outcome visualized they were able to experience success.

The fourth domain is the “self-determination theory” (p.28). This theory is what drives
motivation in others the most. This theory states that people need to have a sense of belonging
and connection to the specific task at hand in order to be motivated. When they have that they
obtain the knowledge as well as independence to complete the task with confidence. When
others, specifically our students are able to exhibit self-determination they have an intrinsic
motivation that prepares them to feel that they have mastered, or are highly competent in a
certain skill set. Mckenna (2012) is able to demonstrate this theory through the results of a study
that focused on how iPads lead to enhanced student learning and achievement. Directly within
the results of this study Mckenna claims that “students today live in a world where digital
technology is part of the texture of their daily lives. They have never known a world without
technology. It is their native language and they expect to use it in schools” (p.139). When
students are able to connect their native language in school it supports self-determination theory.
By allowing students to make this connection it creates an environment in which they feel the
most comfortable because they are able to use their primary discourse; and for our students that is the use of new literacies. Students feel compelled and motivated when they are connected with the task at hand. Since technology is such a large part of their everyday lives like Mcennka, as well as so many other researchers state it is obvious that their overall determination to produce quality work will increase.

The last domain is “recognizing individual differences” (p. 28). This theory talks about educators being aware of students’ diversified needs and interests. When students feel that their teacher truly cares about their academic and personal well-being they are much more likely to be motivated to try their best. Personalized learning is one the best ways teachers can reach out to students to motivate them. Dale and Pymm (2009) exhibit this claim in their findings from a group of students who worked with new technologies to enhance their learning experience. It was found that technology worked not only worked as a differentiation factor because the students were able to pick and choose how they wanted to complete and communicate with others throughout the duration of the project; however, more importantly it worked as a major motivational drive because students were able to be truly connected with the project. It was done so in a way that the task was personalized to them as well as their specific needs as a learner. By allowing students to work with different tools that showcase their strengths as learners they will be more motivated and interested in completing a task. Students will also take into account that the teachers are aware of their strengths and care about their academic and personal growth. When a teacher is able to do that for their students the ideas of recognizing individual differences is truly being practiced Jones and Brown (2011) agree with Dale and Pymm (2009) by stating that their main central findings from the data that they collected on reading motivation between e-books and paper text was one of the main components that lead to raised student motivation.
This rise in student motivation was directly correlated to the freedom students had when choosing their texts to read, as well as having a choice within instruction. When students are allowed to have the autonomy to choose their texts/instructional practices research shows that student motivation increases, which leads to an increase in student success. As educators we recognize that no two students are the same, so in return we must take into account that lessons we produce should reflect that as well. By allowing the students to have a choice in what/how they would like to go about a task raises their motivation and academic achievement.

When thinking about technology as a tool for not only supporting and fostering quality instruction but for driving motivation, researchers have found the students interests are spiked when being able to work with these new literacies. Cimpa (2012) states that motivation has different variables such as choice, curiosity, feedback, interest, involvement, and control. All of which strictly correlate with cognitive reading process’s as a whole which ultimately effects achievement. It is clear to see that Falter (2015), and Cimpa (2012) both agree that there are many things that a teacher must unpack into their lesson to make sure that the motivation factor is reaching to all students in the classroom. From the study that Cimpa looks at, the results indicate that when activities are differentiated to students’ specific needs, and choice is involved that student motivation increases, as well as their overall success. By allowing technology into the classroom specifically tablets (in this study’s case) the teacher was able to allow students the choice in which electronic books (e-book) they could read as well as what follow up activities that they could choose from. By allowing the students to choose which e-book interested them they were much more willing to put all their effort into reading and understanding the text at hand. Falter (2015) supports these findings by explaining that yet another motivation factor for students is to give them more autonomy with the classroom. It is proven that when students are
in control of their own learning, and are allowed the freedom of choice their levels of interest turn into a stable long-term catalyst to their overall success. Cimpa (2012) agrees that by allowing the students this freedom throughout their learning would promote positive attitudes; specifically towards those working with online literacy skills. From the questionnaire answered by the students’ researchers were able to gather that the students truly enjoyed the diverse opportunities that the e-books had given them. These various opportunities provided a wide variety of genres to choose from, the option to have the books read aloud to them, and highlighted words that support the narration if so chosen. Similarly, Handsfield, Dean, and Cielocha (2009) agree that student motivation increases when students are able to use online resources to help them assist them while completing tasks in an authentic manner that is meaningful to them. The study specifically looks at students who use technology to create blog posts in response to the reading material provided within the classroom. Before the students simply had to complete a written response in regards to these books. Handsfield, Dean, and Cielocha realized that what the teacher was lacking was the motivation through social interaction around the response. The results show through student surveys that they felt they truly benefited from blogging their responses online and pushed them to produce quality work. Furthermore, practically three years later the students were interviewed again. The students claimed that they still to this day use blogs to engage in the use of new literacies and expressing their ideas. Nearly 80% of students interestingly maintain their own online spaces and blogs. Cimpa, Handsfield, Dean and Cielocha all demonstrate the central idea that students show a massive increase of motivation when they are given the opportunity to use technology within the classroom. It is also evident from their studies that these lessons are providing the students with authentic learning experiences and helping them to become problem solvers as well as lifelong
learners. When students are motivated and captivated enough to take what they are learning and apply it their own personal lives they are becoming not only critical thinkers however, active members of society.

It is clear to see that student motivation is one of the key factors when looking at student success within the classroom. Students must have the drive, and inartistic motivation to complete the tasks at hand. One of the best ways for teachers to help students gain this intrinsic motivation is to provide the students with the authentic learning experience that allow them to do so. When teachers connect the content to the lives of students the learning then becomes much more believable. Through research presented in this theme it is obvious to see that one way in which teachers can do this is through the implementation of technology within the classroom.

Technology’s Impact on Literacy

As new literacies are becoming a more popular tool within classrooms to guide instruction we are aware of some of the obvious benefits such as students are able to be fully engaged within content area lessons, and a severe increase in student motivation. Researchers are also focusing in on if technology truly promotes student academic success. Throughout the last two themes it is proven that student engagement, and motivation directly affect student success; however this theme will look at studies that show how technology itself directly effects students’ performance within the classroom.

One of the major components to literacy is student comprehension. Teachers presently have been grappling with different strategies that lead to an increase in student comprehension, and critical thinking. Comprehension can be defined as being able to understand for meaning, and visualize the text while reading. It is proven that there are numerous factors that contribute
to a student’s success or distress in this area. However, there are many different things that teachers can do that involve new literacies to help improve student comprehension.

A study that was conducted on a group of fourth graders who were struggling with reading comprehension helped to clarify this wondering. Ertem (2010) looked at a group of fourth graders who had weak comprehension skills. He believed that through the use of electronic story books the students reading comprehension as well as other areas of literacy would show growth. According to Ertem (2010) he states that “computer technology has a role to play in the remediation of children with reading problems and successes in reading instruction” (p. 140). The idea of how technology positively impacts student success is found to be truthful from the results of this study. Ertem found that electronic texts showcase new supports as well as new challenges that can greatly affect a learner, as well as have a major impact on the individual’s ability to comprehend texts. He also found from the study that original printed texts are highly non-interactive as well as contain no adaptable features. Since traditional paper texts lack these new advances it of course makes decoding very difficult for especially a struggling reader to gain fluency as well as comprehend the text at hand.

Fortunately however, through the use of animated illustrations, and the narration of texts, struggling readers are able to grasp higher-level texts. Ertem, proves that through these technological advances in new literacies students are able to build their schemas of stories. It also serves as a wonderful scaffolding tool for both the teacher as well as the student. Coiro (2015) found similar results when directly looking at the benefits of online reading and how they affected comprehension as well as reading strategies. Coiro is in agreement with Ertem’s (2010) findings by stating that technologies offer different ways to make meaning clear to students. They way that the information and text is being presented through new literacies promotes highly
effective scaffolding strategies. Coiro also states that the way web-based learning is presented students must be able to pull from a variety of strategies that include locating, evaluating, synthesizing, and being able to communicate the information that is being found. Through the use of technologies students are able to do this with confidence. She agrees that features such as narration, voice-overs, highlighted word, and animations help students become more cognizant to their reading and comprehension skills.

One major topic of discussion when looking at the effectiveness of technology implementation within the classroom is not only the aid it brings to those students who are struggling readers, but to students with varying levels of competence as well. Since technology has the ability to diversify its support to all learners it makes it all the more valuable tool to place into any classroom regardless of the student population within. One population of students it directly helps is those students with special needs. According to a study conducted by Gonzalez (2014) technology can help this specific pool of learners the most; as well as aid in pushing others groups of students past their potential levels. Gonzalez argues that most would think that students with learning disabilities would benefit from an intense reading instruction program such as an exclusive guided reading setting to help them gain the necessary strategies to be successful in school. However, this is not the case. Students with disabilities have a difficult time staying engaged with lessons, and often work with educators that who “lack sufficient and accurate knowledge to teach that certain population” (p. 2). Educators realized the specific need for certain interventions that deal specifically to literacy, and are now turning to technology as the answer. Whitby, Leininger, and Grillo, (2012) agree with Gonzalez (2014) that these students need certain interventions as well. They also suggest that since students with disabilities are being moved to more inclusive settings more often they (as well as their teachers)
are being pressured to keep up with the rigor of assessments and the fast paced curriculum that is mandatory to move forward. In a sense they expected to academically compete with their peers. Whitby, Leininger, and Grillo, (2012) believe that through the use of technology students with disabilities will be able to participate at a level playing field equal to their peers. Gonzalez (2014) was specifically looking at the positive benefits that e-books have for students with learning disabilities. The major elements that seemed to support the students learning was similar to those of Ertem’s (2010) findings which were the convince of animation, music, sound effects, highlighted text, dictionaries, and modeled fluent reading to help enhance the reader’s experience. The other commonality between studies was the excellent assistance in which technology can provide scaffolding to students and gives them a chance to build upon their problem solving strategies. In addition, Whitby, Leininger, and Grillo, (2012) also note that when students do not contain the receptive language abilities to gather the whole meaning from text-based instruction they miss out on different learning opportunities causing them to lag behind. This is yet another example of how technology can directly affect instruction in a positive manor. Through the use of the digital features that are available to students with disabilities as well as the ability to scaffold to promote student prior knowledge and problem solving skills students with debilities will be able to participate in more inclusive classroom lessons with confidence that they will be able to succeed and learn through the different instructional tools that are offered to them without feeling neglected from the class.

As mentioned before, students who struggle with reading, and students with disabilities are not the only ones who are benefiting from these new literacies. Although, it is becoming more evident through current research and professional discussions that more students who come to us every day demonstrate some sort of reading deficit we must remember that technology can
benefit all students through its ability to be easily differentiated. One of the best ways to do so is to make sure that the students are truly connected to the instruction. Hill (2014) states that one way in which students are really struggling with literacy in present days in through literal comprehension skills. Students who are in our schools today do not possess the skill set to necessarily think through problems literally, and the same goes for texts that are being provided to them at school in any content area. Some of the new standards that are being implemented into our curriculums are outdated and do not reflect the values, customs, and beliefs of the students in our schools today. Unfortunately, because of this students are falling behind when it comes to literacy, and more specifically reading comprehension. Hill states that the teacher from her study (Allison) was flustered in the sense that she had to provide quality instruction to a diverse group of learners with various needs, and sometimes she felt stuck and unsure if it would be possible. Similar to Gonzalez (2014), Allison also felt of pressures of making sure the students felt that they could understand the material that their equal counterparts understood. Allison wanted to use interactive whiteboards to promote student success when it came to comprehension, deep understanding and peer-led discussion groups. In the study, Hill (2014) proves that Allison was able to achieve all of those key components that she felt was so necessary to her instruction as well as her students learning through technology. By using technology Allison was able to differentiate tasks for all her students. By using the interactive smart board Allison felt that she could reach to even her lowest achieving students. When the students watched the book on the smart board the pressures of decoding words, and using multiple strategies to help them read fluently vanished. The students then were able to listen and visualize for overall meaning, ultimately raising their comprehension levels that were previously almost non-existent. Jung, Won Hur, and Suhyun (2012) also side with Hill (2014) on the
general idea that presenting technology into socially engaged setting such as one like a peer-led discussion group can help any student become more mindful of the content that they are trying to understand. Just like how Allison gave her students the opportunity to simply listen to understand for meaning, students will reap the same benefits to a large group discussion. When students are able to listen to one another’s idea collectively within a large group it is obvious that more ideas will generate. By allowing all students in a large group setting watch an interactive story on a smart board, discuss whole group all levels of learners are able, and encouraged to participate. Jung, Won Hur, and Suhyun (2012) also went on to state the students did not view these extra new literacy features such as the voice overs, narrations, animations, colorful and attractive images, etc. to be work that they had to do. The students saw this learning opportunity as a game instead of an educational tool. The students were able to problem solve through issues and become critical thinkers and truly grasp the deep meaning of the task. In addition, according to the sociocultural theory created by Larson and Marsh (2007) students are able to collaborate with each other which incorporates interactions between culture and peers with learning. Educators must be able to use these new literacies in the classroom in a way that enhances the students’ overall learning experience, and helps them become prepared for the future.

However, on the other hand there are some researchers that thought the use of technology would be distracting to students, and cause a decrease in student achievement because of all the different applications that are used to “help” them. According to Seyit (2010), technology such as e-books and interactive stories would be over stimulating for students. The advanced features such as the vibrant animations, and various voices that the narrations offer would not benefit students. Although his initial claim was they would not understand the overall story, his results showed differently. The students actually responded better to the animated picture, rather than
those of traditional storybooks. The students viewed this new wave of read aloud as more of a movie and much more entertaining. The results showed that the students we in fact able to relay the story elements back to the teacher. Similarly Ertem (2010) study showed the same reactions from the students as Seyit (2010). Both researchers found that the students viewed using the technology as a form of enjoyment. By having all of the advanced features that make these new literacies come to life students become excited. Moreover, they are able to relate them back to their own personal lives where they use technology for enjoyment.

Although much of the research continues to prove that technology truly does help student achievement there are still some researchers who are not quite buying into it. Wright, Fugett and Caputa (2013) had the same initial thoughts as Seyit (2010), in which they were looking to see if technology actually affected student comprehension in a positive or negative way. The study included participants that were on grade level, and had average academic performance. The students were asked to read a printed book, an e-book. From the results one could see that the students did in fact take advantage of the different on-line features such as the voice-overs, highlighting words at they are read, and the dictionary. However, these same results also show that there was little to no increase in comprehension scores when comparing those of the e-books and printed books. The students stated that they found some of the factors to be somewhat distracting. It should be taken into consideration that again these students are not struggling readers, however it is still data that disproves the main claim being made. Murray and Olcese (2011) agree with Wright, Fugett and Caputa (2013) in the overall idea that technologies may not always prove an increase in student comprehension or achievement. Murray and Olcese (2011) argue that based on their study they do not believe that the iPad will help with educational advances within classrooms. The study also specifically looks at how these technologies impact
the teacher’s delivery to their students. Murray and Olcese state that these new technologies are of little use to educators and their classrooms; they believe that the iPad does little to help teachers with instructional making processes and there are far better strategies in the education world that can aid in supporting student success. From these linking studies we can see how technologies may not offer the sense of support that many other researchers claim new literacies to do.

Through the use of new literacies schools around the world are rethinking their educational pedagogy’s to ensure that technology is a part of everyday life. However, some researchers do in fact argue that new literacies show little to no increase in student comprehension and achievement. It should be taken into consideration that these students were ones of an average academic level. In other words these extra supports are of little to no value to them. Consequently, struggling readers have shown great improvements when it comes to the use of new literacies during instruction. It is however, shown through numerous studies that technology does directly affect student achievement scores, specifically looking at those that deal with reading comprehension, problem solving skills, critical thinking, and being an over-all well rounded learner. Being a literate being in our society today is so important and crucial to being successful in any aspect of life. It is our job as educators to make sure that we are providing our students with opportunities to help them grow and learn strategies that help them to become successful within our ever-changing literate world.

**Conclusion**

Throughout this literature review three major themes were discussed. All of which have a direct effect on our students today. As we know we are living in a twenty first century world,
and everywhere we turn we will encounter some sort of device, gadget, and technological tool that will help aid us with any questions we may have, problems that we need to solve, or even for the pure enjoyment to better ourselves as an ever-learning being. Many researchers have concluded that having electronic devices, and different technologies in school supports literacy learning and also acts as a successful learning tool. Eventually, technology will be the forefront in which literacy is taught. Teachers must realize that technology does not act as just an entertainment factor, however it serves as portal to knowledge. In order to prepare our students to be college and career ready we need to equip them with the necessary skill set to use these devices correctly and efficiently.

The first theme that was discussed was how technology effects student engagement. It is clear to see that students must be engaged and willing to participate within classroom activities. Technology allows them to do this by allowing them to participate interactively and freely practice the skills that they know best within the classroom. The idea of the teacher being the sole instrument in delivering instruction is slowly going away. Students are becoming less engaged with traditional practices. They are in desperate need of engagement and interaction within the classroom. New literacies help to make students become more interested in their learning.

The second theme that was discussed is how motivation increases due to the use of technology within the classroom. It is a known fact that when students are motivated to learn they do are able to produce a higher quality piece of work. Students who are able to use technology in the classroom daily and have the freedom of choice through authentic learning experiences are proven to demonstrate a higher academic level of achievement. Technology caters to students’ native language in which they feel much more comfortable taking risks within
the classroom. By allowing students to express the five different domains of self-motivation students are bound to show success within the classroom.

The last theme that was discussed in this literature review was how technology impacts on literacy specifically looking at comprehension. With new literacies being the major push within schools it is clear to see how technology can directly affect students’ growth when it comes to literacy skills and how they are being used within the classroom. In research where there were struggling readers the results offered great results that impacted student comprehension. However, there are some studies in which students show little to no improvement when using new literacies and looking at student comprehension. These students are ones that at grade level, or above. Ultimately it is clear that students today only know life through the use of technology, it is the world that they live in. As educators it is our responsibility to make sure that we are providing them with everything that they need to succeed in this new technological world. We need to make sure that all students, low and high achieving know how navigate technology and use it to their advantage.

Methods

Contexts

Research for this study took place in a suburb elementary school located in the city of Rochester. According to the New York State Report Card data for this school the total population of students is 548. Of those 548 students, 40 are in the special education setting, 191 are economically disadvantaged, 18 speak limited proficient English, and the remaining 299 students are considered average students in general education settings. There are 289 males and 259 females that attend this school. The racial make-up of the school is as follows: 10% are
Black or African American, 5% are Latino or Hispanic, 3% are Asian or Native Hawaiian/Other Pacific Islander, 77% are White, and 5% are Multi-Racial.

The classroom that is being used for this study is a first grade class room. Within this classroom there are 20 students. Of these 20 students there is one Black/African American student, one Multi-Racial, one Asian, and the remaining 17 are White. There are 10 males, and 10 females within this classroom. Six of these students receive free/reduced lunch. Seven of these students are below the average reading level (below I). The remaining 13 are at or above grade level.

Participants

The participants from this study included four children from the school listed above. This group of students contains two boys, and two girls. These students all come from diverse cultures, and all but one student receive free or reduced lunch. The ethnic make-up of these students consists of one Black/African American, one Asian, and the other two are White. Of these four students, one currently receives reading recovery support, and two others had been pulled for reading intervention services for the first twenty weeks of school.

Veronica (pseudonym) is a Black or African American female. Veronica is seven years old. She is a very imaginative student. She loves to talk and tell stories about what she does at home, past experiences, and what she is looking forward to do. To gain attention from peers she often times throws tantrums, or tries to “one-up” another student by comparing experiences or materialistic items. She receives free lunch as well. Her instructional reading level is below grade level, as she is reading at a level H. In the duration of the first 20 weeks of the school year, she was pulled out every day for 45 minutes to gain more reading instruction. She is also
receiving math services. Veronica is pulled out three times a week for 25 minutes to receive extra support in mathematics.

Steven (pseudonym) is an Asian male. Steven is seven years old. He is a very active student with a lot of energy to bring to the classroom. He can become distracted very easily and unmotivated at times. He loves to work with technology, watch Netflix, and play with Pokemon cards. Steven receives free lunch as well. His instructional reading level is below grade level. He is at a reading level H. For the entire 40 weeks of school Steven has been receiving reading recovery services every day for 45 minutes a day.

Walt (pseudonym) is a White male. Walt is six years old. He is a role model for the class. Walt is always helping others in need, and following directions. He enjoys playing basketball and baseball. Walt’s instructional reading level is below grade level he is at a level H. For the first 20 weeks of school he was pulled out every day for 45 minutes to gain more reading instruction.

Emily (pseudonym) is a White female. She is seven years old. She loves to draw, and make new friends. At times she can have issues dealing with her emotions and cannot regulate her temper to keep herself calm. Emily’s instructional reading level is right on grade level. She is able to read at a level I.

**Researcher Stance**

I am currently a graduate student at St. John Fisher College Fisher College. I am working toward a Master’s of Science in Literacy Education, and a certification for teaching literacy birth through grade 12. I currently hold a Bachelor’s of Science degree in Childhood Education grades one through six, as well as a degree in Special Education earned at St. John
Fisher College. As a researcher for this study I will serve as an active observer (Mill, 2013) I will act as a facilitator to an activity the students are completing by explaining directions of the activity and prompting students when necessary. The student activities will all be done while I am simultaneously observing the outcomes of the study (Mill, 2013).

Methods

For this study I will be looked at how student comprehension is affected through the use of technology within the classroom. This study took place over the span of three days. This study was conducted with the small group of the four first grade students previously mentioned. The study took place during center time while the rest of the class is working on their center jobs. This made pulling them for the study manageable.

On the first day of this study the teacher read “Stand Tall Molly Lou Melon” by Patty Lovel to the small group of students. This book was about a little girl who had unique features. At first she was shy and unsure of her special qualities but her grandmother told her to stand tall and the world will smile back at you. Molly Lou Melon had to move to a new school and make new friends. All of the kids were very nice to her except one boy; he made fun of all of her unique qualities. Molly Lou Melon stood tall and knew that although her qualities were unique that is what made her so special. The little boy realized that he was wrong and they became friends. The teacher presented the book to them in the form of a traditional interactive read aloud (IRA). After reading the book, students went to the back table and filled out a graphic organizer that focuses on the comprehension of the text.

On the second day the students interacted with an e-book on “Book-Flix” called “Amazing Grace” by Mary Hoffman that is at the same difficulty, and has the same theme as the
IRA. This book was about an African American little girl named Grace. Grace loved to act, and took on the role of many different people and things. One day in school her teacher told her class that they were going to put on the play of Peter Pan. Grace immediately raised her hand and said that she wants the role. One little boy said she couldn't be Peter Pan because she was black, another litter girl said that she couldn't be better Peter Pan because she was a girl. Grace went home very distraught that day and told her grandmother about it. Her grandmother was very upset and took Grace to the ballet. She told Grace that she could be anything she wanted to be, just like that ballerina. Grace practiced and practiced for the part of Peter Pan, and she got the role. All of the children in her class were very impressed at what an amazing job Grace did. Grace knew she could do anything she put her mind to. The teacher explained the directions on how to use the e-book, and navigate through the pages. At the end of the book the students went to the back table to complete the same graphic organizer that focused on comprehension as the one they used on day one.

On day three, the students came down to the carpet and watched an interactive read-aloud using the interactive white board. This read aloud was called the “The Bad Case of the Stripes” by David Shannon. This story will portrayed the same themes/topics as day one and day two. This book was about a little girl named Camilla. Camilla loved lima beans but she never ate them because she was the only one in her school who enjoyed them. She was so worried about what her friends who think of her that she broke out in stripes. Her crazy stripes wouldn't go away, not even after the doctors and the specialist came to visit her. Soon after, a lady came to her house and offered Camilla some beans. Camilla asked if the beans were magical and the lady explained to her that they were just lima beans, and they are exactly what she needs. Camilla eats the lima beans and her stripes go away. She learned that it is okay to be who you
are. After the story on the interactive white board was over, the students went to the back table to complete the same graphic organizer that focuses on comprehension as day one and day two.

On the fourth day the teacher asked the students 10 different questions within a focus group. The students’ all took turns answering the teacher’s questions. Some students did not answer the questions or said pass if they were not sure of the response that they wanted to give.

**Quality and Credibility of Research**

Since this study is one of active research, it is crucial to make sure that it obtains the four criterion to ensure trustworthiness (Mills 2013). Credibility is one the four criterion that supports active research. Mills (2013) describes credibility in a way that researchers must realize that their data results may not present a direct correlation to their hypotheses. One way in which my study uses credibility is through the use of triangulation.

Another criterion is transferability. When looking at transferability Mills (2013) states that the data being gathered cannot be generalized for other circumstances. The data that is being collected is only relevant to the specific participants and demographic. The environment and classroom make-up will also be taken into account when looking at transferability.

The third criterion is dependability. Mills (2013) claims that “dependability refers to the stability of the data” (p.116). When thinking about research this simply means that the researcher’s data collected directly reflects the proposed idea(s) of the study. Mills (2013) introduces the overlap method. When using this method the researcher will be able to use two or more methods to contribute the researcher’s understanding of the observations made throughout the study.
The last and fourth criterion is confirmability. Mills (2013) explains the definition of confirmability as one in which the researchers ideas or beliefs have zero influence on the participants that were active within the duration of the study. To ensure confirmability within my study I will be sure to incorporate the use of triangulation. Mills explain this kind of triangulation as “A variety of data sources and different methods that are compared with one another to cross-check data” (p. 116). My data sources include active observation, a focus group, and student-based evidence.

**Informed Consent and Protecting the Rights of the Participants**

To ensure that the rights of all participants were protected several measures were taken. One of which was gaining the assent of the students that I wanted to use for my study. I verbally explained to the students what the study was about and their specific roles within the study. Since the students are young, parent permission was mandatory for them to participate in this study. I sent home permission slips asking parents if they would allow their children to participate in a study that focused on the influence technology has on comprehension skills. Throughout this document each student was given a pseudonym to protect their identities.

**Data Collection**

In order to effectively gain the necessary data used to find a representation of my research question, I need to gathered data in multiple ways. Through the use of triangulation I will be able to do so. The three different ways that collected my data was through my role as an active observer, focus groups, and student based evidence.
For my role as an active observer I will be jotted down anecdotal notes I observe about the students’ behaviors. Every time I noticed that a student was off task I will provided them with a tally on my data recording sheet. I recorded behaviors for all three days while the students were listening and following along with the stories.

Through the use of focus groups, I was able to facilitate a student-lead discussion. This discussion explored their thoughts and ideas on all of the stories, as well as how easy or difficult they thought each graphic organizer was to complete. I also probed the students’ thoughts on what technology was to them, and how they thought that we used it in our classroom daily. I concluded the focus group with questions that asked the students if they did or did not think technology helped their learning.

Lastly, I will analyzed the student-based evidence to see if there was a direct correlation showing increased comprehension from the worksheets they completed to which type of technology was used. I looked at students’ comprehension worksheets and took into account the different ways that the information was presented to them to see if one way had more of an impact on the student than the other.

**Data Analysis**

The data collected for this action research includes a rubric which assessed if the students were engaged or disengaged throughout the read aloud, student work samples to check for comprehension, a focus group to discuss the technology used, and field notes. Student work and rubrics were analyzed to find trending themes to support the action research question. Student work samples were reviewed and assessed to see if students were able to comprehend one read aloud easier than another. Specifically taking into account how the read aloud was presented to the students via traditional read aloud, iPad, or smartboard. Student rubrics were analyzed by looking at the student behaviors throughout the various read a-louds. Tallies were
given, and totaled to students who were engaged or disengaged during the read a-louds. The tallies were divided up into separate sub components that specifically looked at which behavior the students were displaying. The student focus group was transcribed and coded to find any matching themes on how the students felt about using technology inside and outside the classroom. Lastly, field notes were taken throughout the entirety of the study. The majority of the field notes derive from how the students transition to their graphic organizers after the read a-loud and how easily they are able to complete the graphic organizers. The field notes were analyzed by viewing common themes/frustrations that came from the students after each specific type of read aloud.

**Findings and Discussion**

The data from this action research has been pulled from teacher observation, student work samples, and a discussion from a student focus group facilitated by the teacher. After coding the data there were three major themes that appeared. The first theme is student engagement and appeal of using technology in the classroom. The second theme is technology as an instructional tool and its effect on student comprehension. Finally, the third theme is technology as a primary discourse.

**Student Engagement with Text**

After examining the data it became clear that student engagement, as well as student appeal should be something that must be observed and recorded. Below are some findings that show the levels of student engagement throughout the different types of read a-louds, as well as student appeal that represent the students’ feelings on
excitement and attraction to using either technology or traditional books within the classroom.

Table 1

*Technology Level of Engagement Percentages*

<table>
<thead>
<tr>
<th>Engaged</th>
<th>Disengaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting attentively</td>
<td>Not on task</td>
</tr>
<tr>
<td>Doing exactly what was asked to do</td>
<td>Goofing off on carpet/back table</td>
</tr>
<tr>
<td>Staying on task (not wiggling around, touching neighbor, etc.)</td>
<td>Not doing what was asked to do</td>
</tr>
<tr>
<td>Answering/asking higher level questions when needed</td>
<td>Talking to or touching neighbors</td>
</tr>
<tr>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Student levels of engagement seem to be very high for all students who participated in this study. During the read a louds that included technology the students were very engaged. You can see that the students were not talking at all for the duration of the read a louds; they were sitting attentively; they did everything that was being asked of them; and they also were able to add input when instructed. Also during the activities you can see that the students were not disengaged at all.
According to Larson (2010) technology is a tool in which students can feel personally connected to because it relates to their out of school experiences. When the students are able to use new literacies within the classroom their engagement increases, as well as their achievement. By using technology this study is proven to be accurate as shown above in table one since all students were engaged and on task while listening to the interactive read a louds that the technology provided.

The students were also able to see how new literacies impacted their engagement as well. Through the use of a focus group the students were able to speak freely about how technology affected their engagement and learning overall. When asked about which way the students enjoyed the read a-louds presented to them the best Emily answered:

The smart board because I I got to see what it what is doing,  and when you’re reading I can’t see what it’s doing like it moves when its reading but when you read the picture just like stays there.  (Student, June 24,  2015)

Emily clearly indicated that she preferred using technology as the primary source for interactive read a louds. Her reasoning for favoring the smart board over the traditional read aloud seems to derive from the fact that she enjoyed the digital animations rather than the stagnant pictures from the traditional book. From her statement it is clear to see that Emily is a visual learner. By using the smart board she is able to understand the story better. Through the use of the smart board the story was able to come alive for Emily,  as well as the other students. She enjoyed how the book seemed more like a movie because of its unique animation features as opposed to a book where the pictures are just stagnant. The interactive story that was read aloud to the students was “The Bad Case of the Stripes” and it was read by a famous celebrity. Throughout the duration of the story the students were able to feel as if they were watching a movie because of
the animation and effects. According to Lacina and Mathews (2012), “the storybooks on *Magic Keys* (an interactive website), for example, display text and pictures and students are responsible for turning the pages “(p. 158). On this website there are also famous celebrities that read the storybooks aloud to the children such as “The Bad Case of the Stripes”. Lancina and Mathews (2012) state that when books are presented to students in a manner that is exciting as well as engaging specifically through the use of new literacies students are going to be fully engaged throughout instruction.

Consequently, the study showed that although the students were completely engaged throughout both read alouds that dealt with technology, they were equally as engaged with the traditional read aloud “Stand Tall Molly Lou Melon”. The table below shows the levels of student engagement.

Table 2

*Traditional Read Aloud Level of Engagement Percentages*

<table>
<thead>
<tr>
<th>Engaged</th>
<th>Disengaged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting attentively</td>
<td>Not on task</td>
</tr>
<tr>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Doing exactly what was asked to do</td>
<td>Goofing off on carpet/back table</td>
</tr>
<tr>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Staying on task (not wiggling around, touching neighbor, etc.)</td>
<td>Not doing what was asked to do</td>
</tr>
<tr>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>
According to the table above the students were equally as engaged in the traditional read aloud as the two read alouds that dealt with technology. All students were highly engaged, on task, sitting attentively, and doing what they were asked to do. There were no students who were off task, disengaged, or disruptive. There are many different factors that could be taken into consideration on why and how a student is engaged throughout a lesson. As research shows one major contributor to a student’s engagement is how the student can relate to a text, or their level of enjoyment from the text. A conversation between the teacher and Walt during the focus group shows how Walt found “Stand Tall Molly Lou Melon” to be the most interesting book out of the three selections. The teacher posed the question about which book seemed to the most interesting to the students. When it was Walt’s turn to speak he answered “Molly Lou Melon because she can stack pennies on her teeth!” (Focus Group Interview, June 24, 2015). One interpretation on why this was Walt’s favorite could be he found that part of the story to be funny, since most school aged students would not be stacking pennies on their teeth during recess time. When students enjoy the book being read to them, and in Walt’s case may find it hilarious the context of the book can be more of an appeal to the students rather than the way it is being presented. According to Falter (2015), it does not necessarily matter how the information is presented to the students, the important aspect of engaging kids is making sure they feel a connection and a sense of belonging to the specific task at hand. In Walt’s case his feelings toward the book is evident from his response when asked the question which story was most interesting to you.

From tables one and two you can see that students were in fact equally engaged in both the read a-louds through technology, as well as the traditional read a-loud. With that being said,
one can also see from the focus group interviews that both Emily, and Walt were engaged in both the stories for different reasons. This main reason being that they were connected to the text in a way that was relatable and came to life for them.

**Technology as an Instructional Tool and its Effect on Students**

Throughout this study it was evident to see how much the technology that was used in the classroom affected student performance in addition to their overall attitudes toward literacy. After each read aloud the students had to complete a graphic organizer to demonstrate their overall comprehension of what lesson the story was trying to teach us. In figure 1 Veronica, a struggling student completed the graphic organizer on the book “Amazing Grace” which was read to her via Book Flix on the iPad.

**Figure 1. Veronica’s Graphic Organizer for “Amazing Grace”**

![Graphic Organizer](image)

Figure 1. That you can be how you want to be. It does not matter what people say. You can’t be peter pan because you are a girl.

Veronica is able to capture the overall lesson of the story with ease. Veronica usually struggles with graphic organizers such as these since she is below grade level for reading and writing. Veronica may have enjoyed the narration of voice over and as well as the highlighting
of words as the narration was read. By using these various features, her understanding of the story may have increased which lead to an overall higher comprehension of text, which in return helped her fill out the graphic organizer easily. According to Ertem (2010) this reasoning is valid because he states that traditional paper books lack the advances in which the new literacies such as iPads contain. The iPads have many different interactive features that keep students engaged while they are reading. One of which Etrem says is extremely beneficial is the feature that helps students decode difficult words, and then provides them with a definition to that word. When a student is unable to understand how to say a word, as well as identify what is means the students’ comprehension will be lost. By using the decoding and dictionary feature it will eliminate and issues that may arise for students while reading a book.

Walt like Veronica also was able to fill out a graphic organizer with ease after watching and listening to “A Bad Case of the Stripes” on the smartboard. Although all of the read alouds were the same level of difficulty “A Bad Case of the Stripes” was the longest of all the read alouds approximating in 12 minutes of length. Since the duration was a little bit longer than the rest of the read alouds it can make listening for the moral and lesson of the story a little more difficult. In figure 2 Walt does a good job of trying to decipher the lesson that story was relaying as well as give supportive details to back up him claim

Figure 2. Walt’s Graphic Organizer for the “Bad Case of the Stripes”
From the lesson that Walt provided you can see that he has a grasp of the overall moral that the author David Shannon wanted his audience to know. He also gives specific details from the story that support his lesson. The first key detail Walt describes is the part in which Camilla does not want to eat the lima beans because her friends will make fun her. The second key detail that Walt describes is when Camilla eats the lima beans after she has tried everything to get rid of the stripes. When she ate the lima beans she is able to turn back to normal. Walt’s explanation supports the author’s lesson because according to Walt the author wants us to know that you can like things that your friends do not. There are many different factors that may have helped Walt come to these conclusions. One of which could have been the format that the interactive story was presented to the students. It comes off “movie-like” which interests the students.

Similarly to Veronica and Walt, Steven also enjoys instruction through the use of new literacies in the classroom. Steven verbalizes his enjoyment and comfortability with technology in the focus group when talking about how technology was or was not useful for them (the students’) personally within the classroom. With that being said, Steven is aware of his reading
and comprehension abilities. He knows that it is very hard for him to stay on task, even during group activities. One reason for this behavior is, since he does struggle so much within the classroom, it is hard for him to pay attention and feel connected to the instruction. From the quote below it is clear to see why he prefers using technology within the classroom. Steven states “Uh technology reads it for us when we don’t want to read. Technology helps us learn better, it gives you more learning.” (Focus Group Interview, June 24, 2015). From this quote, and knowing Steven’s academic background one can infer that Steven is clearly an auditory and visual learner. He enjoys when the narrations are being played back to him. This in part may possibly be from the different voices the characters take on from the narration. Another interpretation from Stevens quote may be that he enjoys the animations that technology has to offer since “it gives you more learning.”

In the image below, there is a picture of Steven’s graphic organizer from the book “Stand Tall Molly Lou Melon”. Steven needs much prompting when completing this graphic organizer and he needs it scribed for him as well because he would not complete it otherwise. You can also see from the image that the central message Steven tells us that the author is trying to present is a very basic answer, with no critical thinking involved.

**Figure 3. Steven’s Graphic Organizer of “Stand Tall Molly Lou Melon”**
Figure 3. Being small is okay. She can stack pennies on her teeth. She caught the ball and scored a point.

After viewing figure 3 from above, one can see that Steven’s claims on what the central message that the author David Shannon was trying to relay to us through his story “Stand Tall Molly Lou Melon” are rather undescriptive. Although Steven was able to relay one important part of the story which was “being small is okay”, does not justify the intentional theme of the entire book. Furthermore, one of Steven’s supporting reasons does not match with his central claim. Although Molly Lou Melon was able to stack the pennies on her teeth, that does not support how being small is okay. Steven also refused to fill out the graphic organizer independently and would not write out this thoughts. He also had a very difficult time coming up with a central claim, as well as supporting details. It is displayed at the top of his graphic organizer that he needed this thoughts scribed, as well as prompted throughout the entirety of the activity.

By looking at Steven’s work from above, taking into consideration that this was a traditional read aloud, and his previous comments about how he truly enjoys using technology, it could be inferred that Steven was not able to connect with the material as well through a traditional read aloud. Couse and Chen (2010) also have observed similar behavior in a study that they conducted that dealt with students using technology to promote literacy skills. It was found that when students were given the opportunity to use technology as their primary source of instruction that the students’ comprehension scores were increased. You can see again, from the image above that Steven’s graphic organizer response was sub-par, especially when comparing it to Veronica and Walt’s responses. New literacies truly help students become more motivated when receiving instruction, and completing assignments.
**Smartboard Effectiveness versus iPad**

Although it has been evident that students enjoy using technology within the classroom, and their scores reflect their positive attitudes toward new literacies; during this study it clear that some types of technology better benefited the students than other types. It was observed, as well as documented through student work samples, and verbalization that the smart board was the favored piece of technology within the classroom.

The smart board seemed to be the piece of technology that engaged the students the most, which directly affected their comprehension to the text that was presented. From anecdotal notes collected by the teacher it was evident that read aloud from the smartboard created an environment in which students were able to discuss the question “what is the central message” compared to the environment of the iPad which was strictly an individualized activity. The teacher recorded “students’ are able to feed off each other’s ideas which will promote confidence when completing the graphic organizer” (Teacher Field Notes, June 23, 2015). From this statement it is clear to see that the teacher was able to observe the students’ in an instructional social setting. The teacher heard good discussion revolving around the central message of the read aloud. According to Lankshear and Knobel (2010), literacy is “socially recognized ways of generating, communicating, and negotiating meaningful content through the medium of encoded texts within contexts of participation in discourses” (p. 64). When looking at this quote, and taking into consideration the teacher’s anecdotal notes of the students’ reactions to the smart board read aloud, it is clear that the students were in a social setting in which they were able to express and communicate their ideas in a way that made sense for them to gather and process necessary information to answer the question at hand. Since the students’ were placed in an
environment that allowed them to communicate they were able to gain a better understanding of the text.

After looking at the socialization factor dealing with the smartboard, the other key piece of technology in this study was reviewed also; specifically looking at the socialization component. From looking as the anecdotal notes the teacher took after viewing the students’ work with technology it was clear that there was no discussion, or socialization that took place with the iPad. The teacher stated “students’ came directly off iPads and started on their graphic organizers. Students’ seemed frustrated while trying to complete the graphic organizer” (Teacher Field Notes, June 22, 2015). Since each of the students were allowed their own iPad it could be inferred that the students’ felt this was an isolated activity. From the quote above the teacher was able to see the students’ clear frustration when trying to complete the activity. Although the students’ were sitting next to one another, and the teacher did not discourage them to discuss after the text on the iPad was read; one could conclude that since the iPad was given to each of the students’ it did not allow the opportunity to create a collaborative environment. According to Larson and Marsh (2010), they believe that a true learner is one that is an active member of an ever evolving community. As stated above the students may have viewed the iPad as an isolated activity, and because of this there was not an opportunity for them to be active members in a community that promoted their learning. Furthermore, this lack of socialization caused disconnect with the text which directly effective their comprehension, as well as their confidence to complete the graphic organizer.

Upon reviewing the graphic organizers that were collected from the students after the study was taken place, it can been seen that the students had difficulty putting their thoughts on the paper. In the figure below, Emily had the most difficult time completing the graphic
organizer. On her paper the teacher wrote a note commenting on how difficult this was for her to complete. It should be noted that Emily was the highest achieving in the study, and her other two work samples were very easy for her to complete.

**Figure 4. Emily’s Graphic Organizer of “Amazing Grace”**

Figure 4. You can be anything. You can’t be peter pan yes I can. When Grace proved that she can be Peter Pan.

As you can see from figure four it Emily has a difficult time completing the graphic organizer. From her text based evidence responses it is shown that she has somewhat of an idea that supports her claim, however her answers are not strong. By saying “you can’t be Peter Pan, yes I can” does not show a specific section of the book that directly proves that she can be anything she wants to be. Also, from the teacher notes, it is documented that Emily shows much frustration when trying to complete the graphic organizer because she kept forgetting what happened throughout the story, and that she could not focus. Wright, Fugett and Caputa (2013), found similar frustrations with students’ working with e-books that participated in their study. The students, like Emily verbalized that the various factors that were meant to help the students gain a better overall understanding just left them distracted and frustrated. When looking at this
specific study it is noted that the students who were participating were not struggling readers, just like Emily.

Overall, it is the results of this study show that student comprehension increased when using the smartboard to present the read aloud to them compared to the iPad. Various factors contributed to this increase in comprehension such as the socialization factor, and the elimination of distracting features that were offered to the students throughout the duration of the read aloud.

**Implications**

This action research question asked given that students live in a technology based world, and a world that revolves around the practice of new literacies, how can technology influence students’ comprehension? Throughout this research there have been three various implications that were found that will further help teachers with their instructional practice within the classroom. These three implications were, why participation and engagement is increased when technology is used within the classroom, how technology is a resource for differentiation, and why it is crucial to teach students this 21st century skill.

Findings revealed that through the use of technology, student participation and engagement increase. Teachers should implement these new literacies into their classrooms because it truly excites their students to expand their horizons when learning new material due to their increased participation and engagement. The study conducted by Barone and Wright (2008) support this implication when examining a group of fourth grader’s using instant messaging within the classroom to support their instruction. Their research showed the improvements in comprehension raised when technology was used. One major contributing factor that lent itself to the raise of comprehension according to Barone and Wright, was strictly because of the gains in
engagement, motivation, and the participation that led to critical thinking strategies. If teachers want to hook their students’ into learning any material across the curriculum technology is proven to support them throughout their academic journey in a positive way.

In addition to technology supporting student engagement, teachers should also be aware of how technology is such a wonderful tool to have in the classroom when it comes to differentiating instruction within the classroom. As shown throughout this action research study students’ express their feelings on how they enjoy being able to manipulate the features when using technology to fit their personal needs. Corio (2015) shows this to be beneficial when discussing how important it is for students to be able to have different resources available to them while reading such as, online dictionaries, voiceovers, animations, hyperlinks, etc. When teachers allow these devices into their rooms throughout the day, they are letting the students take control and be responsible for their own learning. The students will then know exactly what they need to understand the material, and have those resources at their fingertips.

Lastly, teachers must understand the importance technology plays into an educational setting, and how it will affect students’ out of school. Based on the student interviews the children expressed how they enjoyed being able to relate to the technology being used in school to the technology that they use at home. It is crucial for teachers to allow opportunities for students to make those connections to their primary discourse. Technology is used not only at home and within schools, however it is also used in the workplace as well. The need of being able to use technology correctly is becoming a vital skill to be successful in the global market, or any other workplace in general (Karchmer, 2001). Teachers must make sure that we are allowing our students to apply their technology skills in everyday instructional practices to make them not only college ready, but career ready as well.
Conclusion

Overall, this action research asked given that students live in a technology based world, and a world that revolves around the practice of new literacies, how can technology influence students’ comprehension? The research was conducted in a first grade classroom. The data for the research was collected through student observation of engagement/disengagement based on a rubric, student work samples, and a student focus group. Findings showed that student engagement was consistent throughout the use of technology based read a louds, as well as a traditional read aloud conducted by the teacher. Furthermore, comprehension was not decreased nor when looking at student work samples. Lastly, through the use of student focus groups students expressed how much they truly enjoyed technology within the classroom, not only because it was engaging; but it truly helped them understand the material better.

The main question of this research paper asked, how would technology influence students’ comprehension? By incorporating technology into instructional practices teachers will be able to connect with and engage students at a higher level, which will ultimately affect their overall comprehension, allowing them to be successful in school as well as the workplace. The theoretical framework was based on the idea that new literacies are everywhere as well as ever changing. Students must be able to apply these new literacy skills to collaborate as well as create authentic learning experiences which will enable them to become successful. The methods that were conducted were rubrics to assess student engagement, student work samples, and a student focus group. The findings and implications show that student engagement is increased when technology is used within the classroom, which leads to higher participation and overall understanding of the content. Technology not only has a powerful impact on student
engagement, however it also acts as a differentiation tool for all students to become successful learners within the classroom. Lastly, teachers must realize that technology is a necessary skill in all areas of life, therefore it is crucial to implement it in everyday instruction to overall benefit student success for college and the workplace.

If I were to do this study over again there would be many different things I would do to better support my research question. First, I would have liked to plan my research within the classroom at a different time in the year. It was very difficult for students to stay on task during the comprehension graphic organizers as well as the student focus group. Since these were performed during the last few days of the school year I feel that students were rather distracted. I strongly believe that if this research took place at a different time of the year, the data would show different results. Second, I think that if I used a larger group of students, with varying levels I would have had better quality data. I used four students with somewhat varying instructional levels, and the answers that they provided me with during the student focus group were interesting; however that is the only place I saw their levels vary. I think that it would be very interesting if I could use a larger pool of students I would have gained better results.

After reviewing my action research, there are a few questions that I have for myself as well as other teachers. My first question would be, do you think that we would see better results of student comprehension if this study was conducted in the beginning of the year, middle and end? From my research it was difficult to see the difference between student comprehensions gained from a read aloud done with technology as opposed to the read aloud conducted by the teacher. My second question would be do you think that the quality of data would improve if research was done throughout varying grade level. Although first graders grow so much throughout the school year, it is still difficult for them to do some tasks such as graphic
organizers on their own. If this research was conducted throughout multiple grade levels, we might be able to see more success with comprehension when using technology.

In our current society, technology is the staple of our everyday lives. Technology does not just serve a way to gain quick information or as a secondary source to communicate with others. Technology is now used to help us with everyday issues, and tasks in not only our personal lives, but in school and work as well. Children are now even using technology, and incorporating it into their main source of play. Technology has truly rooted itself into daily lives, and without it life would seem such more difficult. It is clear to see that since technology is so important, it only makes sense to implement it into instruction at school. By allowing students to have the opportunity to authentic learning experiences that not only connect to their personal lives, but engage them as well; we will be able to ensure that our children will become successful in and out of school.
References


Ciampa, K. (2012). ICANREAD: The Effects of an Online Reading Program on Grade 1 Students' Engagement and Comprehension Strategy Use. *Journal Of Research On Technology In Education (International Society For Technology In Education), 45*(1), 27-59


doi:10.1002/JAAL.00141

Levy, R. (2009). ‘You have to understand words ... but not read them’: young children becoming readers in a digital age. *Journal Of Research In Reading, 32*(1), 75-91.
doi:10.1111/j.1467-9817.2008.01382.x


Ortlieb, Sargent & Moreland (2014) Evaluating the Efficacy of Using a Digital Reading Environment to Improve Reading Comprehension within a Reading Clinic, Reading Psychology, 35:5, 397-421, DOI:10.1080/02702711.2012.683236.


Appendix A- Rubric for Read Aloud Observation - One per Read Aloud

<table>
<thead>
<tr>
<th>Behavior:</th>
<th>Engaged:</th>
<th>Disengaged:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting attentively</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doing exactly what was asked to do</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Staying on task (not wiggling around, touching neighbor, etc)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Answering/asking higher level questions when needed</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix B- Focus Group

1. What does the word technology mean to you?

2. How do you think we use technology in our classroom?

3. Thinking about the technology we use in school, and home what is your favorite type of technology? Why is it your favorite?

4. Out of all the read a-louds we listened to in the past week: “Bad Case of The Stripes”, “Amazing Grace”, and “Stand Tall Molly Lou Melon” which one was your favorite? Why was it your favorite?

5. We already discussed our favorite read a-loud book, now I want you to think about which book was the most interesting to you. Why do you think it was the most interesting?

6. How do you think technology did or did not help us with reading those books? Why do you think that?

7. How do you think technology did or did not help you fill out your graphic organizers? What specifically helped or did not help you?

8. Out of all the read a-louds which way did you like the best? Did you like the smart board best, the iPad best, or when I read it out loud to you? Remember it is not which book you like, it is which way the book was presented to you and why?

9. So do you like books through technology better, or books through read a-louds (like actual books I read to you) why?

10. Why do you think you would (or would not) like to read books better through technology better more often than regular read a-louds?