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# Traditional vs. Electronic Learning Environment

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Traditional Learning Environment vs. Electronic Learning Environment

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## **Chapter 1 – Introduction**

“Okay, boys and girls please reach into your bins and take out your headphones,” I instructed. The students scrambled through their already full-to-capacity bins to find their headphones. While students looked through their bins, Noah (all names are pseudonyms) asked me with anticipation, “Are we going down to the computer lab to do i-Ready today?” “Yes, we will not work in our reading and writing groups today,” I responded. I observed a sense of excitement among the students after they heard my previous comment. I continued to tell the class, “You will not be able to work on your independent word work either.”

Not only does every student have individual headphones, every classroom teacher can voluntarily pilot a new electronic learning (e-learning) program called i-Ready. This program was purchased by the district in 2013. As the students were called to line up in front of the door; Noah, Lizzie, and Billy waited patiently at their desks for their names to be called.

### **Rationale**

Within my school district, students from grades K-5 are required to use a computer based assessment/progress monitoring program called i-Ready. According to Elliot & March (2014) i-Ready is built for the Common Core:

This program is proven to help students make real gains. It combines a valid and reliable adaptive diagnostic with personalized student online instruction and teacher-led instruction in a single online product. The adaptive Diagnostic pinpoints student needs down to the sub-skill level and generates a combination of online instruction and downloadable teacher-led lessons that are unique to each student's diagnostic result, in addition to providing targeted skill instruction support through mobile apps. These

individualized instructional plans are easy to understand, differentiate instruction and support blending learning. (p. 1)

Grade levels K-5 within the elementary school had a time slot within their yearly academic schedule so they could focus on i-Ready diagnostic testing. Students are required annually to take a beginning of the year assessment, mid-year assessment, and an end of the year assessment. Since I chose to pilot the program, my second grade students could use the program on a weekly basis as well. In a given week, the students in my classroom individually spent 80 minutes working within i-Ready program. This time was split between their Math and ELA blocks.

Since the district continues to designate times for students to be engaged within an electronic learning environment, I question if students are losing out on the traditional learning environment where social interactions and collaborations occur. The traditional learning environment is defined as, "Learning by absorbing and soaking up information that is presented by people who are known to be more scholarly educated in the specific subject matter" (Ngo-Vuong, 2005, p. 1). Much social development and cognition develops at an early level, does the electronic learning environment hinder the growth of socialization within my classroom? My goal is to explore differences in potential outcomes of the e-learning and traditional classroom environments.

According to Abik, Ajhoun, & Ensais (2012) an explanation to what an electronic learning environment contained was created. These authors stated that the electronic learning environment used different types of computer based programs to improve a student's academic progress. The e-learning environment allowed students to access different resources and

materials through different types of software programs (p. 226). Within this article the authors focused on determining if there was an “alliance between pedagogy and technology” (p.224).

Further, I would like to generate an understanding regarding whether an e-learning classroom environment is a more effective learning environment for children in comparison to a traditional classroom learning environment.

### **Problem Statement**

As we continue to move forward within the 21<sup>st</sup> century, media has a vital impact on our society. Commercials, social media, educational websites, and radio advertisements all marketed a new way to view a student’s education, which is through the electronic learning environment. According to Kevin Bushweller (2010), the public school system of Chicago recently announced that an electronic learning program would be implemented within 15 of their elementary schools. This new pilot program will be replacing certified teachers with online lesson, activities, and courses. The school district also added other types of virtual-learning opportunities for students to use. Along with public school systems beginning to pilot different electronic learning programs, I have seen the recent change within the school district I work in as well. Since electronic learning has become part of the curriculum in my district, students’ classroom behaviors and engagement have been affected in both a positive and negative way. In some cases, behavior of students cannot be modeled appropriately within an electronic learning environment. It is common to correlate a teacher’s behavior to a student’s behavior. For example, if a teacher responded to a student sarcastically, that student may respond to the teacher sarcastically in return, because they viewed the modeled behavior as appropriate since the teacher modeled that specific behavior. A teacher also influences students learning styles. Since this is the case, students need an effective learning environment that supports each type of

learning style. If students are within a comfortable learning environment, they can progress academically because the environment allows students to value and conceptualize instruction (Erisiti, 2012, p. 3). When teachers are not modeling an effective model of classroom behavior, how can students gain the instruction needed for the cognitive, social, and physical developments? Electronic learning environments may not support a student's behavior development like a traditional classroom learning environment can. Consequently, I wonder if the concept of the lack of behavior development within an e-learning environment affects a student's academic achievement rate.

### **Significance of the problem**

According to Badia, Meneses, & Sigalés (2013), school districts are becoming more technologically equipped. Thus, teachers are slowly understanding how to use "Information and Communication Technologies (ICT)" effectively within their classrooms. Additionally, teachers are beginning to understand how to implement the use of technology within their academic curriculum development (p. 790). These authors created a study that recognized instructional factors and decisions that teachers choose within an electronic learning environment. More specifically, these authors presented causes to why teachers made certain instructional choices within the e-learning environment. (p. 788). Recent technological trends seem to conclude that most schools are becoming more technologically equipped. This may point toward a higher usage of technological equipment and programs within the classroom. Since a decade ago, technology has grown significantly through different devices (i.e. computers, cell phones, portable music devices, etc...). These types of devices provided students with the opportunity to constantly "search for information." Additionally, students could use these devices to socially collaborate with peers. Subsequently, these devices allowed students to continue their inquiry in

education and assist with communicating with others (Cox, 2013, p. 5). The ease of access for most students to work within an electronic learning environment is becoming more accessible in comparison to ten years ago. While these findings show some positive and negative concepts about the two different classroom environments, how can educators truly understand which environment is best for an individual student? Is an e-learning environment more suitable for all children at the second grade level? Or is the e-learning environment appropriate for students who are all at varying academic levels?

Since exploring different research articles, I have yet to come across an elementary based article that compared the two different learning environments to the extent that I will be researching. Schools, teachers, and students are becoming more technologically savvy. E-learning environments within academic curriculums (i.e. ELA and Mathematics) are gradually becoming more apparent in my district. Students are able to use the i-Ready program at home. Since this is the case, student's academic skills are being reinforced at home, and new skills are being electronically instructed during the school day. All students who had the opportunity of using this program were at more of an advantage to have skills reinforced.

### **Purpose**

The purpose of this project is to generate a conclusion regarding whether an e-learning classroom environment is an effective learning environment for children in comparison to a traditional classroom learning environment. The school district where I work uses the data provided from i-Ready (the e-learning program) as beginning of the year assessments, middle of the year assessments, end of the year assessments, and progress monitoring scores as one of the benchmarks of a student's current level of performance. I would like to know if the e-learning program is the most authentic and effective way to assess students. With many different

response to intervention programs and ELA standards that describe collaborating and interacting with others online, I plan to determine if an e-learning classroom model is the most authentic and effective instructional model.

The following question will guide my study:

How are student's attention rates, academic achievement, and behavior affected by both traditional and e-learning environments?

### **Study Approach**

The study design for this project will be a qualitative comparison study. I plan to gather research through my second grade classroom where we use a program called i-Ready for Math and ELA data collection and formative instructional purposes. I plan to collect data throughout the school day using a student self-reflection/evaluation template, classroom observations, and parent conferences. The self-reflection template (see Appendix A) was a graphic organizer that was discovered from an outside resource. This template assisted students with a reflection on their engagement, effort, and behavior within each learning environment. The observation checklist (see Appendix B) was discovered from an outside resource as well. This template was used to quickly assess student's engagement and behavior within both environments.

The study consisted of three students within my second grade classroom who were at varying academic levels. Their levels were determined through who was on grade level, who was below grade level, and who was above grade level in the areas of English Language Arts and Mathematics in comparison to the entire group of students within my class.

**Summary**

Electronic learning plays an important role within my school district's Mathematics and English Language Arts curriculum. This study will assist my knowledge about electronic and traditional classroom learning. The informative data gathered through both types of learning environments are analyzed and implemented into our Response to Intervention (RTI) meetings. Each grade level uses the data to form instructional groups and to discuss with parents. Understanding further information about these two classroom environments will allow me and other educators to tailor both types of environments into our everyday teaching instruction. Additionally, the information gathered by this study will allow parents to understand how both learning environments affect their child. Parents who gain an understanding of the e-learning program may become inspired to begin using the electronic learning program at home.

**Chapter 2: Literature Review**

The electronic learning environment allows children to access individualized and differentiated lessons that support the needs of the specific learner. The i-Ready program provides students with the exact lesson they need to achieve success and progress academically. Students receive individualized lessons based on benchmark and progress monitoring assessments that students take throughout the school year. The lessons are provided to students based on scores they received from the beginning of the year, middle of the year, end of the year, and reoccurring progress monitoring assessments.

Among the authors and researchers listed, many of them have created studies based on the effectiveness of the electronic learning environment and the traditional learning environment.

The age groups that these authors and researchers focused on were primarily middle school aged students to college undergraduates. Next, these authors analyzed current electronic learning programs that were used in certain school districts in hopes to have determined the positive effectiveness it had on students. The discoveries that these authors and researchers determined were that behavior, attention rate, and academic success and progress were affected by certain academic environments.

By comparing both types of learning environments, the findings should suggest a pattern, or offer a conclusion as to what type of learning environment is most effective for a student at the elementary level

Much of the research that focused on electronic learning was connected to higher-level institutions (i.e. Colleges or Universities). However, research has yet to focus on electronic learning within an elementary educational setting. Cox (2013) analyzed within an article if there was an interrelationship between the technology used within school and during leisure. Even though there has been an increased number of elementary and middle school aged students accessing a variety of media technologies at home, there is limited research on how accessing information through multiple media sources effect a student's learning. Most evidence of students' technology use is based within an educational setting or at home. "There is little evidence of the interrelationship between them" (p. 1). This article stated that further research needed to be completed about how the frequent use of information technologies compared to the impact of academic development. Since this paper analyzed which environment was more appropriate for students to learn, it is suggested that the information gathered would assist with determining if the use of technology impacted academic development and progress.

**Effectively Using Technology and the Electronic Learning Environment**

According to Colace, De Santo, & Greco (2014), sometimes classrooms are made up of students whose behavior is less than exemplary because the material being instructed does not appeal to their interests. When there is a student within a classroom that is unmotivated or inattentive, many teachers self-reflect on their instruction and teaching methods (p. 9). These authors discussed a program called Adaptive Educational Hypermedia System (AEHS) within their journal article. The AEHS is a system used in high school that constructs goals based on an individual's interests and needs. The individualized program that is built for the student is tailored around their preferences (p. 9). A student can use this program through an e-learning environment to access content adapted specifically to his or her knowledge of the subject.

The reason students may become inattentive or display difficulty with learning new material may be caused through a classroom environment that is not tailored to specific students' needs, strengths, or interests. The traditional classroom learning environment may be incompatible with the student's preferred learning environment. If a student's learning environment does not match or correlate to the classroom environment, the results could be traumatic for a student. Lack of a preferential environment could cause a student stress during the school day, and a lack of academic progress. Colace et al. (2014) also stated, "There is substantial evidence that students learn in a variety of ways and that traditional teaching addresses only a small subset of the learning styles that are in a classroom" (p. 1). The electronic learning environment that students use within my school district is a different medium in which students can learn. Since this type of environment differs from the traditional classroom environment, a student's attention rate and behavior may transform. Students have a better chance of experiencing academic success when they learn through multiple modalities

throughout their educational career. This is because all students have different multiple-intelligences and acquire information uniquely. Using an electronic learning environment that appeals to students may increase their ability to attend to specific instruction.

In an article written by a professor in Bangkok, Thailand, Donna Quigley (2012) stated, “In the United States, the amount of time children and teens spend on the computer has tripled in the last ten years” (p. 751). Quigley’s article predominantly focused on the effects that information communication technologies (ICT) had on student’s age’s 6-11 academic and social influences. Since students have technology more readily available and accessible at home, there is more of an opportunity for them to grow academically. Findings from the San Francisco Chronicle reported that 70% of students between the ages of 6 and 11 “had accessed the Internet in the last 30 days” (p. 751). Since students have access to the internet, teachers have the ability to assign students additional electronic learning assignments/lessons that they can complete at home. Students who completed differentiated and individualized assignments at home would have a higher chance of academic growth. The chance of academic growth heightens because these students continued their learning beyond school hours, and their lessons have been individualized. Quigley also stated, the accessibility of mobile devices, digital cameras, tablets, iPods, video gaming devices, and computers have allowed students to further inquire their education. Since these devices are readily available to all grade-leveled students, communication and collaboration can occur instantaneously. Students now have the ability to communicate and discuss newly learned information through these types of communication devices (p. 749). As we move forward in the 21<sup>st</sup> century, students at the elementary level are learning and accessing new information more independently. This is because of the availability of technology at school and at home. “Students at the elementary level are assumed to navigate the internet afterschool”

(p. 754). The frequent use of navigating the internet will allow students to gain computer literacy knowledge (p. 754).

Coyle, Jones, & Pickle (2009) documented and tested an electronic learning program that was used consistently within diverse education populations. There were three districts that were within this sample. The districts were “a small district spread over a vast area, a large inner city school district, and a statewide program serving multiple districts” (p. 14). The authors, who are administrators for their respective school district, stated that the electronic learning environment is available to all students of different levels of performance. The electronic learning program is constructed to challenge students with rigorous questions that are aligned to specific state standards. Students can use the electronic learning program whenever their personal academic schedule allows them access, whether that is during ELA, Science, Math, etc... (p. 14). In relation to the e-learning program that my school district uses (i-Ready); the e-learning program mentioned in this article has grown exponentially over the past decade. The small district has seen “significant progress” (p. 13), the inner-city district has seen “the program grow from 26 (students) in the 2004-05 school year to 139 for 2008-09” (p. 14), and the statewide program has seen the biggest growth of all. “In eight years, the distance learning center has grown from 62 students attending three schools to 3,046 students attending 93 schools; the passing rate is 95%” (p. 15). Considering the achievement rate, successes, and student growth of this electronic learning program, the data presented suggests that this particular e-learning environment has a positive effect on student engagement and behavior.

### **Electronic Learning Environment Concerns**

One of my concerns about the electronic learning environment is that students at the primary level have yet to understand the purpose of technology and how it works. Allowing

students of that age level to work within the parameters of the e-learning environment requires additional technological instruction by the teacher. Additionally, students will not have the same type of social collaboration that would be supported within a traditional classroom learning environment. “A concern of e-learning is the lack of student interaction which may diminish the effectiveness of a classroom learning environment” (Colace et al., 2014, p. 1).

In comparison to Colace et al., an article written by Professor Sandra Martinez (2014) discusses similar concerns. Martinez “aims to analyze the teaching – learning and competency assessment working group in the context of e-learning” (p. 345). Martinez stated, “Students need to develop some competency of using devices that are within an e-learning environment” (p. 348). Students who have yet developed a competency of using the e-learning materials may have a difficult time within an electronic learning environment. Inauthentic data may occur because students are unfamiliar with how specific technological equipment works. If students are not technologically literate, and are working within an e-learning environment, scores and data analyzed by the teacher may be inauthentic because technological mishaps (i.e. incapability of using a mouse, arrow keys, etc...).

### **Blending the Traditional Environment and Electronic Environment**

However, an article written by So & Ching (2012) discussed how current academic designs and curriculums are providing students with electronically focused learning environments. These environments have resources to a plethora amount of subject based materials like “science related topics” (p. 1). Within this article the authors stated that, “Primary school children today are natives of the digital generation whose lives are largely filled by technology; they can use technology with ease” (p. 2). Since students are entering school with higher computer literacy proficiencies, the article summarized that if teachers are choosing the

right lesson for students, then attitude, motivation, and conceptual understanding have more of a chance to improve. However, A procedural measurement of students “motivation and cognitive development” within a comparative sample size would allow data to be analyzed more efficiently and effectively for promoting learning growth (p. 10).

According to Abik et al. (2012), the traditional classroom environment allows for students to have a personalized education path that is tailored to a student’s strengths and needs. Additionally, a traditional classroom environment allows students to collaborate with one another (p. 226-227). I believe the most important aspect that a traditional environment contains is social collaboration. The traditional environment allows for more social collaboration with peers for many reasons. The teacher is able to facilitate a discussion, allow an opportunity for all students to interact with one another, and controls the techniques of creating a collaborative environment. With technology becoming more available and accessible within school districts and at home, I suggest that electronic learning has the opportunity of becoming integrated within the traditional learning environment. The advancement of electronic learning can integrate collaboration within the programs, thus creating two environments that are interchangeable, and adaptive to students’ academic success.

Hall Davidson, a director of global learning initiatives at Discovery Education says, "It's very clear that online learning has found its time and place," he says, both the electronic learning environment and the traditional classroom environment are beginning to cross paths which causes some serious competition between both environments. There are some educational organizations (i.e. charter schools and “entrepreneurial proprietary schools”) that are beginning to benefit from the electronic learning environment instruction (Waters, 2011, p. 30).

A survey was done in 2006 by the International Association for K-12 Online Learning (iNACOL) by researchers from various universities and school districts. Barbour et al. (2011), intended to discover the “pace and growth of online and blended learning environments throughout the world” (p. 5). “In the North America and other developed countries (i.e. Western Europe, Asia, and Australia), elementary students and secondary students have the most opportunities for blended or online learning within their academic programs” (p.11).

When looking at the technology use in Massachusetts, the department’s technology guidelines recommend that at least 85% of teachers use technology each week with their students. According to the data submitted by school districts in Massachusetts, the percentage of teachers using technology with their students is “about once a week or more, which is about 77%.” Also, teachers who allow their students to use technology on a regular basis have “increased from 43% to 47%” (Massachusetts Department of, 2009, p. 4).

There are many researchers and authors who support the electronic learning environment, and explain how using the environment assists students academically. The electronic learning environment allows students to receive instruction that is personalized and individualized for their learning goals. Authors and researchers also stated that a consistent blend of both environments within a student’s learning progression will not hinder academic growth. Teachers who use the electronic learning environment more consistently will also support students who need assistance with computer literacy. Students generally spend time afterschool on mobile devices. If students are exposed to these devices at school, they will be able to use the device more effectively at home. Students who use mobile devices at home can become more independent and self-reliant with expanding their academic conceptualizations.

### **Chapter 3 – Study Design**

This study was designed to discover the effects of a traditional learning classroom environment in comparison to an electronic learning classroom environment. Through exploration, I planned to determine a learning environment that best suited students at the elementary level. During this research, I provided students with a self-evaluation sheet. This evaluation sheet asked the students to reflect on each type of learning environment, and would take no longer than five minutes to complete. The second form of data collection would be through classroom observations. The observations were conducted by the teacher who interpreted student behavior and attentiveness throughout both learning environments. Finally, parent conferences were held for parents to discuss their opinions and knowledge about the electronic learning program.

#### **Positionality of the Researcher**

I have taught for the past two years in the district where I have conducted my research. In May of 2012, I finished my undergraduate studies from The College at Brockport, State University of New York. I received a B.S. degree in English Creative Writing, and as of September 2012, I have been issued my initial certification degree in Childhood Inclusive Education grades B-6. One year after graduation, I began my teaching career as a year long-term special education teacher with the district I currently work in. After I completed one year as a special education teacher, I accepted a job as a general education teacher at the second grade level. I have been working toward my Master's degree in Childhood Literacy from The College at Brockport since the fall of 2012. I believe that students can thrive when a classroom environment is tailored to a student's interest and motivation. Creating a positive and safe

classroom environment will allow students to become motivated, to participate, and to take academic risks.

### **Participants**

There were three students who I determined to become involved with this project. The characteristics of each participant were second grade students who were at varying academic levels (above grade level, on grade level, and below grade level) within the areas of English Language Arts and Math from my classroom roster. Levels were determined by benchmark scores (i.e. Developmental Reading Assessment), Mathematic unit test scores, and ELA and Math i-Ready scores from previous assessments. The students did not miss any instruction while they self-reflected.

In some cases, the lessons within the traditional classroom environment took longer than expected and, did not leave time for the three students to self-reflect. So, before a lesson was implemented, I evaluated the lesson/activity to confirm the duration. If I evaluated that a lesson/activity would go longer than the duration of 40 minutes, I created a small modification so the three students could conclude five minutes before the whole group ended the activity. The modification to the lesson allowed students to self-reflect within the environment, right after the lesson, and did not hinder their learning.

This study took place in a suburban school district in New York State. This school district is unique and houses a diverse population of students, parents, and educators. The eastern part of the school district is nearby a city, whereas the central and western parts of the district move from commercial real estate and family neighborhoods to farmland and some agriculture. The parents within this district were extremely helpful and vocal about what their

children learn, and would communicate with teachers and administrators about anything they can do to help their child, school, and community succeed.

### **Procedures of the Study**

All 20 students were engaged within a traditional classroom environment and an electronic learning classroom environment during six weeks of the research process. During the six weeks, students spent 40 minutes within the electronic learning environment (Math and ELA) per week. The remainder of the school day was instructed through the traditional classroom learning environment. In the final five minutes of being within a specific learning environment, the three participants completed a self-evaluation form (Appendix A).

This self-evaluation form focused on how the participants perceived themselves within the two different types of classroom environments. Participants reflected on their ELA and Math environment. The questions that they focused on were “What did I do well?” and “What do I need to work on?” Throughout the school year, all of the students in second grade self-reflected about their learning on a weekly basis. So the three participants who completed these forms would have prior knowledge about how to complete this form successfully. Within the traditional learning environment for Mathematics, each student has provided an answer for two prompts each week, which totals a combined 6 Mathematic reflections a week. Since the data collection was over a 6 week period, the total number of responses for the traditional learning environment for Mathematics was 36. This number stays true for the other three categories as well.

During the first week of data collection, the instructions on the self-reflection template were read-aloud to the students. After students understood the directions, and what was expected on the questionnaire, they were able to independently record their answers the following weeks.

Additionally, this self-evaluation form allowed students to reflect on their behavior and effort. There were three choices for the participants to complete. These choices were represented by different faces that have different emotions. Student's filled out a picture of a face to that corresponded with their efforts and their behavior for a particular lesson within both learning environments. The three faces that the children colored at the end of lessons rated their effort and behavior on a scale of 1 to 3. A colored smile face meant that the particular student rated himself/herself a 1, which meant a positive effort and behavior. A student who rated their behavior poorly would translate into the coloring of a frown face, which would be a 3 on the rating scale. Finally, students who rated themselves a 2 (the middle face) believed that their behavior was inconsistent throughout the lesson.

The gathered data from these self-reflections was coded. Data was highlighted when the student's reflections were academically based (i.e. during a Math lesson, students responded that they worked well with addition and subtraction, or word problems. Rather than explaining that they worked well because they followed directions). A reflection was left un-highlighted if a student's response was more focused on their behavior, rather than their academic achievement (i.e. a student would respond that he/she paid attention or, did not talk to others during the lesson).

Next, students were informally observed by the teacher (Appendix B). Observation notes were written based upon the student's behavior, attention, and overall engagement within the specific learning environment.

These notes were coded by using "+" and "-." These two marks represented on-task behavior and attention (+), and off-task behavior and inattention (-) during both types of learning environments. The teacher recorded each off-task behavior during both traditional and e-

learning environments. For example, if the student was mainly inattentive during that particular lesson, observation notes may have displayed five off-task behaviors marks (-) and zero on-task behavior marks (+). If a student was mainly on task for the entire lesson, he/she would have only one on-task behavior mark recorded on the observational notes sheet (+) and zero recorded off-task behaviors. This represented that the particular student demonstrated the ability to stay attentive and on-task throughout the entire 40 minute lesson. Thus, there can only be one “+” for each lesson. The one “+” sign indicated the student was on-task throughout the lesson. A student received a “-“ when attention was noted elsewhere in the room, if the student was playing with any type of materials, stimuli or manipulatives on his/her desk, talking to another peer, or a response to a question given by the teacher was completely inaccurate or off-topic.

Finally, parent conferences were held to discuss how parents perceived the electronic learning environment. This electronic learning program can be accessed at home as well as school. The conferences were helpful to this study because parents had seen the program first-hand and, expressed valuable information about how their son/daughter performed academically and behaviorally. Also, parents observed their student’s engagement and attentiveness at home.

Responses were color coded based on the parent responses. The color coded key that was used during parent conferences is listed below:

Red – Parents who understood the program and would continue to balance using the program at home and during their child’s homework.

Blue – Parents who disliked the program and felt it unnecessary to use at home.

Green – Parents who needed more information about the program, and did not understand what and why it was being used for instructional purposes.

All information from the participant self-reflection form, informal observation, and parent conferences served as data to generate an understanding to whether an e-learning classroom environment is a more effective learning environment for students in comparison to a traditional classroom learning environment.

#### **Chapter 4 – Data Collection and Analysis**

Data was collected through three different types of methods. Throughout the six weeks of data collection, students were involved within both types of learning environments (traditional learning environment and electronic learning environment). Within the electronic learning environment and the traditional classroom learning environment, students were asked to complete a self-reflection form during the final five minutes of both types of lessons. Another form of data collection was observational notes. While students were in both types of environments, the teacher took observational notes of each student's attentiveness and behavior throughout the lesson. Additionally, parent conferences were used as a source of data collection. During parent conferences, the teacher took notes while a conversation was being held about the electronic learning environment.

After the data was analyzed, three findings emerged from the methods used within this study. Students demonstrated more negative behaviors within the traditional learning environment in comparison to the electronic learning environment. Next, students were more willing to academically self-reflect within a traditional learning environment, which suggested that student's effort was higher within the traditional learning environment. Finally,

Continuation of the e-learning environment at home allows students to have access to individualized lessons that support their academic growth.

**Students demonstrated more negative behaviors within the traditional learning environment in comparison to the electronic learning environment**

Students completed the self-reflection form to the best of their ability with minor support from the teacher. Results indicated that student's self-reflections were more positive than negative within the electronic learning environment than the traditional classroom learning environment.

During the data collection period, all three students rated their behavior and effort with a smile face (a rating of 1) within the electronic learning environment. This smile face indicated that the students believed their effort and behavior was proficient and acceptable during the electronic learning lesson/activity. The electronic learning environment was an independent learning environment where kids used headphones to listen to lesson instructions. All three students labeled their behavior as proficient because the amount of external stimuli and transitions within this type of environment was minimal in comparison to a traditional classroom learning environment. There was only one task that all students were required to complete, unlike the traditional learning environment that held multiple types of activities and tasks within (i.e. reading groups, word work activities, independent work, small group discussions/collaboration, shared reading, partner work, and independent reading). Considering the electronic learning environment does not support the types of activities listed above, it suggested that the students believed their behaviors (within an electronic learning environment) were appropriate because they were quiet, focused, and had no opportunity to collaborate or

share ideas with other students. Figure one displays how three students rated their behavior and effort within the electronic learning environment.

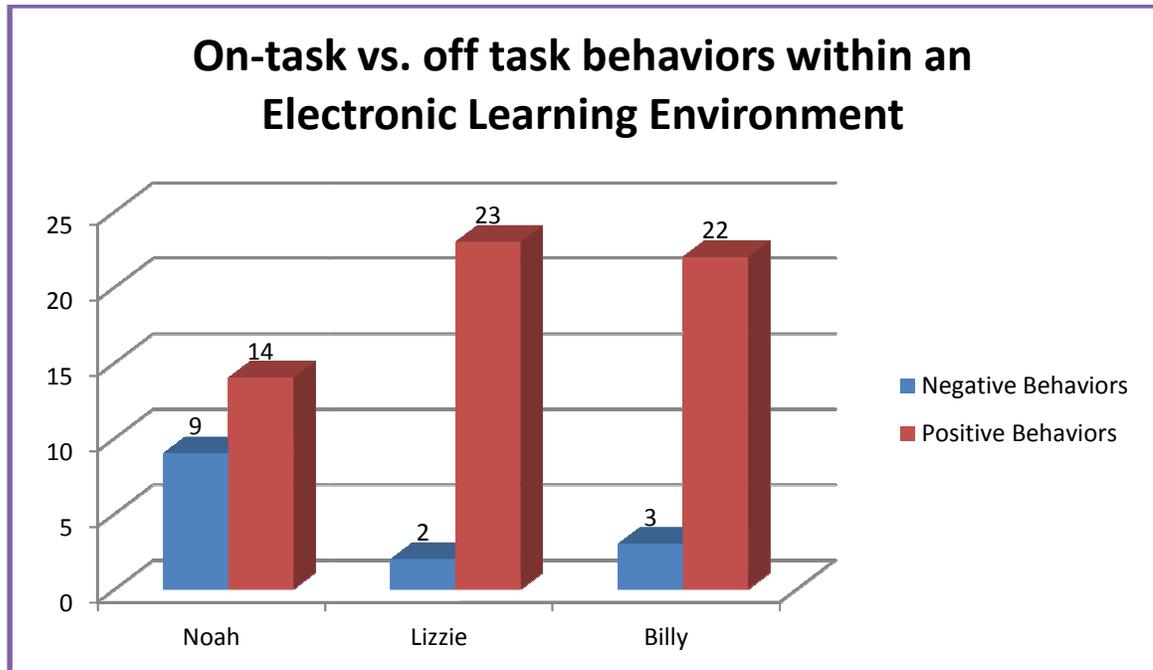


Figure 1. On-task vs. off task behaviors within an electronic learning environment. This figure illustrates observational student behaviors within an e-learning environment.

All three students within the electronic learning environment for ELA and Math displayed more positive behaviors than negative behaviors. Students within this environment were at a computer, with headphones on, listening to directions given through the i-Ready program. This type of environment allowed students to focus more on the activity/lesson in comparison to the traditional classroom learning environment. Additionally, student attention rates and behaviors were more positive because these particular lessons were tailored to each student's present level of performance, which piqued their interest level. All of the lessons/activities that students viewed on i-Ready were individualized and differentiated based on their needs. Since these lessons are individualized, students focused more attentively on these

lessons because they were achievable and challenging, rather than a whole group environment where lessons were achievable and challenging to only most of the students.

Students' self-reflections resulted differently when the data collection was analyzed from the traditional learning environment. Students displayed that most of their behavior and effort was proficient and acceptable (rating scale of 1) during the ELA and Math lessons. However, during some weeks, these students indicated that their effort and behavior was less than acceptable. Lizzie labeled her effort as a middle face (rating scale of 2) for three traditional ELA lessons and one traditional Math lesson. Billy indicated that his effort during all traditional Math lessons was acceptable, and indicated that during one traditional ELA lesson his behavior was inconsistent (rating scale of 2). Noah responded with a smile face (rating scale of 1) for all traditional lessons. Self-reflections resulted differently within the traditional classroom environment because of all the external stimuli and transitions within this type of environment.

Students within the traditional classroom environment had more of an opportunity to socially collaborate with peers. Since students had this opportunity, some collaboration led to off-task behaviors. At the ages of 6 and 7 years old, it was simple for students to become off-task during a traditional learning environment lesson. Also, students sat at their desk within this type of environment. Since students were at their desks, it naturally promoted students to fiddle with their pencils, erasers, or any other manipulatives on their desks. This caused students behavior and effort to diminish because of their inattentiveness or lack of focus.

Students have been using self-reflection forms throughout the school year, and similar to the forms they have been using, the form used for the data collected displayed the same type of rating scale for behavior and effort (i.e. happy face, inconsistent face, and sad face). Noah rated himself all happy faces for all types of lessons. Noah is the below grade level student within this

study, thus creating a need for an explanation to why he chose to rate his behavior and effort as proficient for all lessons. This student in particular is self-aware of others and, is beginning to understand that the product of his work is below the product of others' within the classroom. I believe the reason that Noah rated himself so high for all lessons was to conceal his academic struggles from his peers. Connecting his self-reflections with other reflections that he had completed within the classroom, his responses were similar in which he chose to color in smile faces (rating scale of 1) for all of his other reflections. I believe Noah would be impartial if another student saw him rate himself a 2 or a 3, because he does not want his peers to know that he may have struggled or displayed poor effort during a lesson. Another reason for the consistency of rating himself all positive behaviors was that he wanted to complete the self-reflection form quickly. Noah did not show much ownership over his work, which resulted in quickly completed activities within the traditional environment. The self-reflection form displayed that Noah positively rated his behavior. However, the observation notes that were taken during the traditional environment, displayed that his negative behaviors completely outweighed his on-task behaviors.

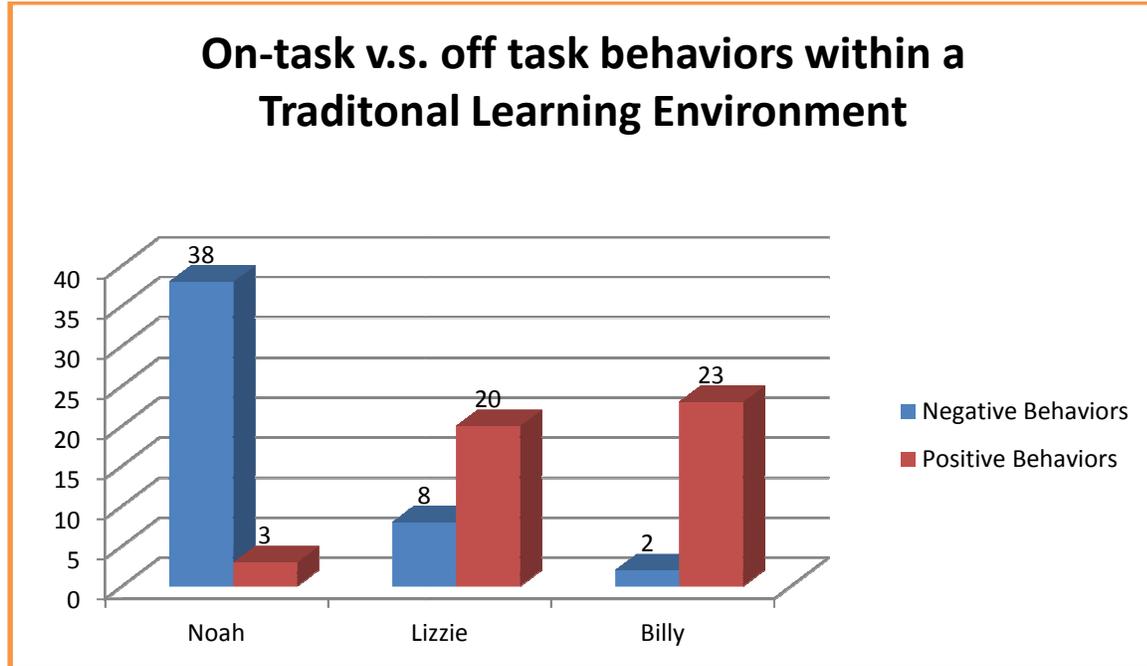
The other two students were at grade level and above grade level, and they have more of an understanding of how to self-reflect as a learner. Excluding Noah's results from this part of data collection would not hinder conclusions. I believe Noah's results from the behavior and effort self-reflection sheet are inaccurate or inauthentic. This is because of how quickly he finished and, the lack of effort he put forth to complete the behavior scale. The observational notes done by the teacher served as a more purposeful understanding of Noah's behavior within both environments. Since Noah's observational notes displayed off-task behaviors, I believe using notes collected by the teacher are a more accurate rating scale.

The teacher completed observational notes during both types of learning environments. Observational notes were collected by writing down instances of when students became off-task during a lesson. Results showed more on-tasks behaviors and positive attention rates within the electronic learning environment.

Figure 2, on the next page, displays that Noah demonstrated more negative behaviors within the traditional learning environment. The other two students had similar results, and displayed more positive behaviors within the traditional learning environment. Noah, the student who was below grade level, showed more negative behaviors during the traditional learning environment. Within this type of environment, students worked within reading groups, word work activities, independent work, small group discussions/collaboration, shared reading, partner work, independent reading, and independent activities.

When students were working within the whole group, the material that was being instructed was mainly at grade level. This material only appealed to students who were approaching grade level, who were at-grade level, and to some who were above-grade level. When students worked with fewer peers in their instructional groups, the idea was to make that type of instruction more differentiated and attainable for students at every level. Noah, being below grade level, was more likely to display negative off-task behaviors within a traditional classroom learning environment because the material being presented to him was above his zone of proximal development. Thus, a student who was below grade level may become disinterested with the on-grade level lesson. This may have caused a student, like Noah, to show negative behaviors within the traditional learning environment.

Below displays the observation results of students who were on-task and off-task behaviors within a traditional learning environment.



**Figure 2. On-task vs. off task behaviors within a traditional learning environment. This figure illustrates observational student behaviors within a traditional environment.**

**Student's self-reflections were academically based within the traditional classroom, which suggested that student effort was higher within this traditional environment**

On the same self-reflection form that students rated their behavior and effort with a smile face, they also had the opportunity to reflect on what they did well and what they should improve (see Appendix A). Furthermore, results displayed that students were more willing to self-reflect on what they could improve on academically during the traditional classroom environment in comparison to the electronic learning classroom environment. The electronic learning environment does not support student collaboration or a kinesthetic learning style. This is because students are individually focused on completing differentiated lessons.

Within the traditional environment, students were able to self-reflect on what they could improve on because they had more of an opportunity to become off-task during paired work,

verbally contribute to class discussions, and independently work and practice skills. The electronic learning environment does not support those lesson structures stated above. Verbal contribution to a discussion demonstrated a student's level of understanding. If a student was called to verbally contribute to a class discussion, the teacher and other students in the room have an idea if the student who was speaking understood the content. The students somewhat self-assess their knowledge when they speak aloud within the traditional environment. The electronic learning environment does not promote class discussions/collaboration so students don't have the opportunity to explain what they have learned. Finally, students displayed more off-task behaviors within the traditional learning environment which allowed them to self-reflect on what they could improve on. Students displayed more off-task behaviors because of all of the different lesson structures they were exposed to.

Figure three shows a visual image of the total results of reflections given from the two subject areas of Math and ELA. Figure three is divided into four subcategories. The two categories within this graph are academic and behavior responses of what students said they did well and, what they need to work on in both environments. Since they responded to four different prompts within two different environments, a student reflected upon their learning eight times per week. So, all three students each week turned in a combined total of 24 responses. Throughout the six weeks of data collection, students reflected a total of 144 times.

The following graph titled "Self-Evaluation Responses in both Learning Environments," is based on the total number of responses of each learning environment throughout the 6 week period of data collection. After data was compiled within the two types of learning environments of Mathematics, the majority of student self-evaluations were more focused on their academic

achievement and understanding, rather than their attention span and behavior rate. Types of student responses were as followed:

Billy wrote that he “worked well with word problems.” Lizzie stated that she “measured the right way.” Noah discussed that his computational skills are strong. He marked, “I can add and subtract numbers.”

Out of 36 responses received for the Mathematics traditional learning environment, 32 academic self-evaluations were compiled (like the examples stated above), which translated to 88% of the responses within the traditional learning environment were academic related. So many responses were academically based within the traditional environment because students had the opportunity to self-assess themselves through social collaboration, verbal contribution to class discussions, and kinesthetic practice of newly learned material.

In the electronic learning environment for Mathematics, the majority of students reflected on their behavior rather than their academic achievement. Some responses contained that they did well paying attention, not talking to others, or staying quiet. Out of 36 responses received for the e-learning environment for Mathematics, 24 behavior self-evaluations were compiled. This translates to 67% of the responses within the e-learning environment were behavior related. The electronic environment promoted behavior reflections because students did not have the opportunity to truly self-assess themselves as a learner. Students are familiar to an environment where they can collaborate with peers and explain understandings to their teacher. Also, the e-learning environment does not provide students with instant feedback if they answered a question incorrectly. If a student answered a question incorrectly within the e-learning program, they would not know of any inaccuracies until they finished the lesson. Whereas, within a

traditional environment, the teacher or other students in the classroom would provide feedback if an answer was incorrect.

Data was compiled the same way within both ELA environments as well. Out of 36 responses for the traditional learning environment for ELA, 20 responses were behavior focused rather than academically focused. This translated to 56% of student reflections within this type of environment were behavior based. Student responses were somewhat similar in regards to behavior based responses within the Mathematical environments. Responses were as followed:

Noah stated, "I did all of my word work," which concluded that he worked intently and was attentive throughout that activity. Lizzie discussed how she did not talk to anyone during her independent Daily 5 time. "I was quiet and did my work," she wrote. This also speaks to positive behavior. Billy identified that he worked well within a whole reading group. "I followed along while other kids were reading." This relates to positive and respectful behavior during a small group lesson. 44% of the responses within the traditional learning environment for ELA were about academic-related strengths and needs. These responses discussed how students spelled words correctly by using the word wall, stretched out the sounds correctly within words, were able to find details in a non-fiction text to support an answer, and read most words accurately within their reading group.

Responses within the traditional environment for ELA were closely split. I believe this is because I (the teacher) created an ELA environment where students had concluded if their behavior was unacceptable they would not finish the assigned activity. If the assigned activity was not completed, students would have to stay in for recess to complete it. Students were more likely to self-reflect on their behavior within this environment because expected behavior for all students in this environment was made such a focal point.

Within the electronic learning environment for ELA, the majority of students reflected on their behavior rather than their academic achievement. Some responses portrayed that they did well paying attention to their own screen, not talking to others while they were working, or staying quiet. Out of 36 responses received for the e-learning environment for ELA, 29 behavior self-evaluations were compiled. This translated to 81% of the responses within the e-learning environment were behavior related. Which leaves less than 20% of the responses to be academic related. Figure 3, below, shows a visual of the data that was collected.

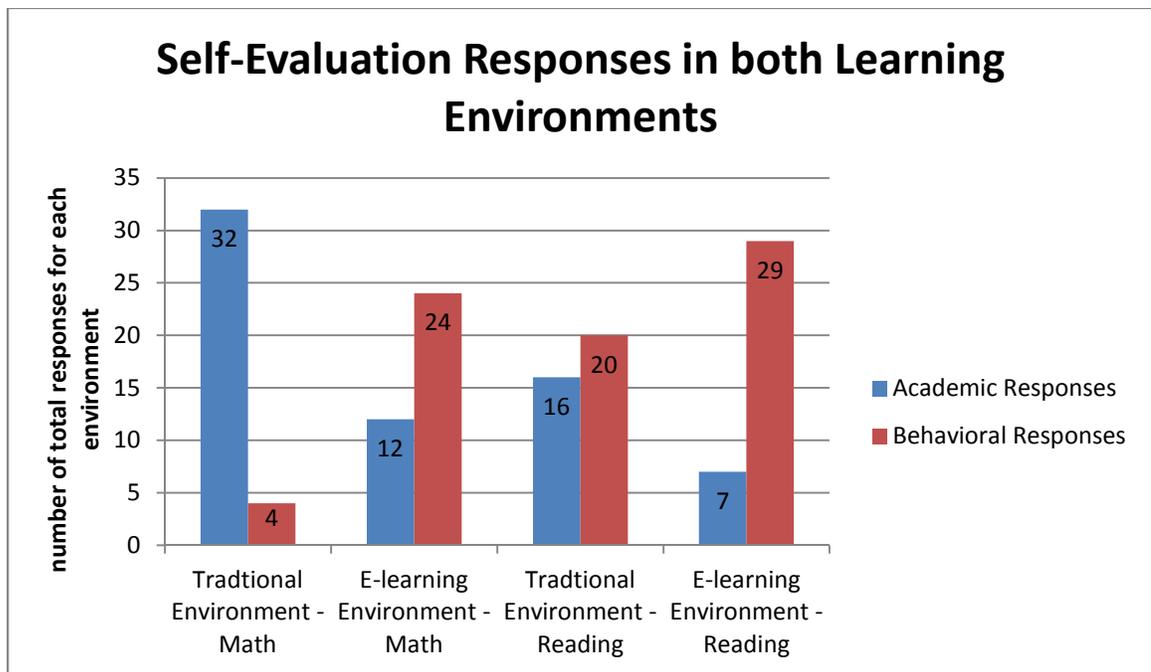


Figure 3. Self-evaluation responses in both learning environments. This figure illustrates the amount students who responded per subject/environment.

**Continuation of the e-learning environment at home allows students to have access to individualized lessons that support their academic growth**

During parent conference week, anecdotal notes were taken during conversations about the electronic learning environment.

After data was compiled from parent conferences, it became clear that most parents needed more information about the program, which is the reason they did not implement the program at home. However, after a discussion was held about what the program is and how teachers use it for instructional purposes, parents verbally decided that they would implement the electronic learning program at home.

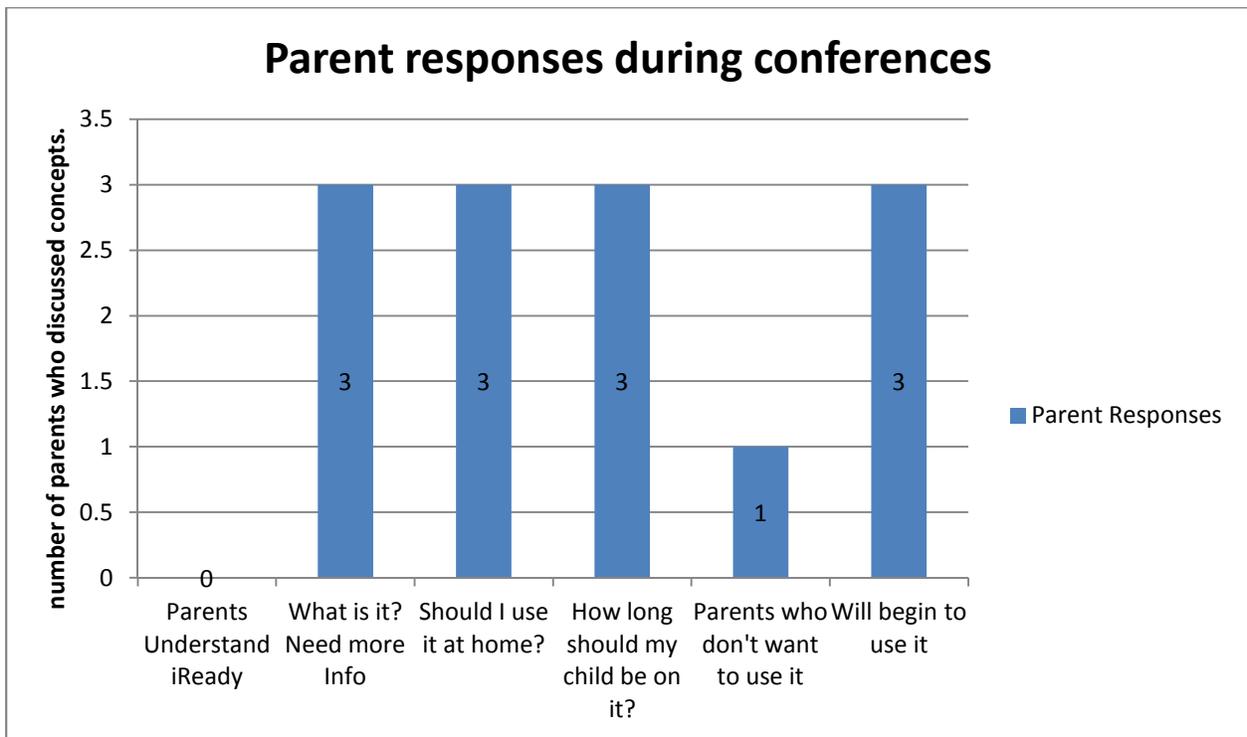


Figure 1. Parent responses during conferences. This figure illustrates the amount of parents who discussed specific e-learning concepts.

Data collected from the parents of the students within this study explained that they did not have a firm understanding of what the electronic learning program was. All three parents

asked valid questions during our parent conferences, which displayed their inquiry of the electronic learning program. Even though one parent initially discussed during the conference that they were concerned about the amount of time their child would have to spend on computer at home, all parents left the parent conference willing to use the program at home on more of a consistent basis. Parents who decided to use the program at home would continue to give their child lessons and activities that are at their instructional level. If students continued to get lessons at their instructional level and within their zones of proximal development, academic success and achievement would have a better chance to grow.

Second, if parents allowed children to use the program at home, they would not only have access to their child's academic progress to his/her lessons, but would have also received recommended areas of strengths and needs of improvements from the program itself. Focused on a student's academic weaknesses, the i-Ready program provided the parents with a list of lessons/activities that they could perform with their children. Additionally, the program had hyperlinks that parents can click that lead their children to educational games and resources that assisted them with their area of needs.

Since these three parents have agreed to begin using the i-Ready program at home with their children, parents could become more aware of their child's academic achievement. During our parent discussions, parents wanted to know how they could help their child continue to build on skills that had been learned in the classroom at home. The data analysis within this program allowed parents to have that information at the click of a button. When students received instruction at their instructional level, students would have a better chance of a positive academic achievement rate, rather than a regression in their learning. The electronic learning program

provided parents with information to keep their students moving forward with their academic development.

## **Chapter 5 – Conclusions and Recommendations**

“The e-learning environment supports a new concept of teaching whose final aim is to increase the quality and effectiveness of traditional teaching” (Colace et al, 2014, p. 9). The purpose of this project was to generate a conclusion to whether an e-learning classroom environment was an effective learning environment for children in elementary school in comparison to a traditional classroom learning environment. This is an important concept in education because of all the technological advancements and e-learning programs that school districts have available to them. Within my school district, students in my classroom find themselves working within an electronic learning environment twice a week. Gathering information to understand which environment is more effective was critical for my understanding and my co-workers understandings. Understanding what environment caused a positive behavioral approach for students, a meaningful academic approach, and an engaging approach will assist teachers with their lesson planning and shared decision making.

### **Conclusions**

After generally studying an electronic learning environment and a traditional classroom learning environment, it is suggested that both learning environments offered positives and negatives. Students’ academic achievement rate, engagement, and positive behavior were more likely to be displayed within the electronic learning environment. Social collaboration, student

self-evaluations, and persistent effort were more likely to be exhibited within the traditional learning environment.

The analysis indicated that students rated their behaviors more positively within the e-learning environment in comparison to the traditional classroom environment. Additionally, teacher observations of students within both classroom environments seemed to show that a student's behavior was more on-task, attentive, and engaged within an electronic learning environment. So & Ching (2012) stated, "Lessons are more interesting when blended using technological resources" (p. 10).

Students' ability to progress academically was slightly higher in the electronic learning environment. From parent conferences and knowledge of the electronic learning program, students had a better chance of attaining academic gains. This is because the e-learning program is differentiated and individualizes lessons for students. It is suggested that students would learn best through this program because lessons have been tailored to the student's unique learning path. Since parents have agreed to use this program at home, students will continue to get the appropriate lessons which will assist with their academic progress.

Students' ability to demonstrate persistent effort was higher within the traditional environment because of the concept of socialization, peer collaboration, and demonstrating self-ownership over their work. Since students displayed the ability to self-reflect on their academic understandings within the traditional learning environment, I suggest that student effort is higher. Collaboration with peers and participating in whole group discussions allowed students to self-evaluate their academic understandings based upon discussions with peers. Also, teacher feedback was given to students during the traditional environment, whereas feedback of student academic proficiency was not given within the e-learning environment during a specific lesson.

Both environments provided students with purposeful and meaningful lessons where students had the opportunity to demonstrate engagement, appropriate behavior, overall effort, and academic success. The electronic learning environment provided students with differentiated lessons that were individualized to their strengths and needs. The traditional environment provided students with opportunity self-evaluate, collaborate, and share their newly learned understandings with peers. Both environments offer positives and negatives. Balancing the two environments will offer students multiple opportunities to display academic gains and progress.

### **Implications for My Teaching**

After finding evidence which suggested that the e-learning program and the traditional classroom environment have positives and negatives within, my pedagogical mind frame will mainly stay the same with some minor adjustments to my lesson planning.

As for implementing the e-learning program within the school district and in my classroom, I plan on balancing the two types of learning environments. I believe it is necessary for students to receive individualized instruction at their academic levels. In order for students to receive a balance of both environments, I plan on increasing my students' use of the program each week, while the rest of the week will be focused on traditional classroom learning where collaboration and social understandings can be discussed and learned. Quigley (2012) discusses how "the internet limits opportunities for young students to develop social interaction skills that are critical to their overall emotional and social development" (p. 749). This statement accurately correlates with the idea that social collaboration needs to be implemented and further analyzed while students are electronically learning.

Additionally, I will continue to educate parents about the e-learning program that their students work within. This program allows parents to take initiative at home about what and how to continuing teaching their children. Since this program has individualized lessons, parents can allow students to work on meaningful and engaging lessons at home.

### **Recommendations**

Teachers within an elementary setting should balance the two different types of learning environments within their classrooms. Since students are more attentive and on-task during the electronic learning environment, teachers should keep this type of engagement within the classroom. Teachers need to have a balance within the two environments because of the reflective and evaluative effort individual students put forth within the traditional classroom environment. Students have shown through data collection and analysis that they are more apt to reflect and evaluate how they learned that day, what they learned, and how their behavior was. Since students within this study were more open to reflect within a traditional environment, I suggest that teachers should balance or continue to balance the two environments.

Another reason to have a balance between the two environments is the concept of social collaboration and engagement with peers. Within the electronic learning environment, the program that the students use does not allow time for social collaboration and discussion during a lesson or an activity. Students are working independently on their individualized lessons and are not receiving the opportunity to discuss their thinking and learning strategies with their peers, or even with their teachers. Although individualized lessons are important for all students, students learn best through social collaboration like shift four of the Common Core Standards state from EngageNY (2014) “students engage in rich and rigorous evidence based conversations

about text” (p. 1). I recommended fostering a respectful and safe social environment within the traditional classroom environment.

Finally, working with students at ages 6 and 7 on a computer based program may cause for some human error. Students at this age may have never used a computer before, thus resulting in misinterpreted scores that the program will analyze. Students may not know how to use a mouse, a keyboard, a desktop computer, or a laptop. Since these young students are unfamiliar with some of the technological devices within school districts, it is important to instruct them how to correctly and appropriately use these devices. Since these were second grade students, they did not need any further computer skills instruction. This is because they were exposed to the electronic learning program last year in first grade. However, if students do not have an understanding of how to use the computer and navigate through the e-learning program, they have more of an opportunity to accidentally choose wrong answers or skip questions which would result in faulty benchmark scores.

Social collaboration along with individualized lessons will assist students with academic development. I suggest that the traditional learning environment and electronic learning environment be blended together within an academic curriculum. The blending of these two types of environments will allow students to receive and experience instruction through multiple learning styles.

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[Release-i-Ready-Winner-eSchool-News-2014-15-Readers-Choice-Awards.aspx](http://www.curriculumassociates.com/aboutus/Press-Release-i-Ready-Winner-eSchool-News-2014-15-Readers-Choice-Awards.aspx)

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Appendix A

Student Self-Evaluation Form

My Learning Reflection <input type="text"/>			
<p>Reading</p> <p>What I do well:</p>     <p>What I need to work on:</p>    	<p>Writing</p> <p>What I do well:</p>     <p>What I need to work on:</p>    	<p>Math</p> <p>What I do well:</p>     <p>What I need to work on:</p>    	<p>My behavior is:</p> <p>  </p> <p>Why I gave myself this rating:</p>    <p>My effort is:</p> <p>  </p> <p>Why I gave myself this rating:</p>    <p>Teacher comments:</p>
			<p>Parent Signature:</p>

