Online education has grown tremendously in the past decade, though there has been little research completed on its efficacy at the elementary level. The educational focus of the primary level student is to learn how to read fluently, which requires a systematic phonics approach whether the student is in a traditional or online environment. This research paper will focus on the growth of online education at the primary level, the necessary reading interventions for reading fluency growth and the keys for a successful learning environment. In the online educational model, the engagement level of the parent, guardian, or adult significantly impacts the academic success of the primary age student, especially in the area of learning how to read on grade level. Keys to parent engagement include communication with the licensed classroom teacher, student participation in live online classroom experiences, and daily completion of curriculum and school attendance. All of these require the parent, adult, or guardian to be engaged in the online program along with the primary age student. Additionally, the research addresses whether a student who enrolls in an online school midyear typically scores below their online peers and continues to score below their online peers even after subsequent years enrolled in the online school.

Keywords: online education, primary student, phonics instruction, parent engagement, academic success
DEDICATION

I believe every child has great potential within them and as educators we just need to find out how to help each child reach beyond what we believe they can do to achieve their potential. This journey began for me the day I was told by my oldest child’s kindergarten teacher that he would never learn how to read and if he did learn how to read he would always be a very poor reader. That was the day I choose an alternative model of education for my children. I have had the privilege of teaching all four of my children how to read. This dissertation is dedicated to my children Spencer, Ethan, Caleb, and Chloe, and daughter-in-law, Amy who all have a love for learning. This dissertation is dedicated to my parents, Fred and Bonnie Vance who instilled within me from a very young age the importance of an education. This dissertation is dedicated to my husband, Brad who has always provided me with the opportunities to pursue my dreams.
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CHAPTER I. INTRODUCTION

Background of the Problem

Online education has grown exponentially over the past decade and has many curious bystanders. With over 1,000,000 students enrolled K-12 across the nation it is time for research to be completed on the factors that make online education effective (Lips, 2010). Online education is a new model of education in the last decade for the elementary age student. When a student has access to an online education they have access to not only an online classroom but integrated tools that enhance the classroom experience (Hampel & Pleines, 2013).

There are many things that have led to the rise in interest in online education, which include the growth in technology and the desire to meet the needs of differing populations, including those students whose academic or physical needs have not been met in a traditional brick and mortar school. Access to a good school is no longer determined by financial means or geographical residence (Lips, 2010). Online schools are available to any student whether they live in an urban, suburban, or rural area and students are receiving the same curriculum, classroom experience, and teacher. The research in online education, especially at the primary level of education, has not yet been tapped into and the potential for research is endless. Online education is a new adventure in education.

For the purpose of this dissertation, a brick and mortar school setting refers to a traditional school setting where a student actually goes to a school building to attend school. Likewise an online or virtual model refers to a school where a student logs onto their classes through a web-based program. The same academic needs remain whether a child is in an online or brick and mortar school and the same end goal of educating children to become strong, fluent readers is the desired achievement at the primary level.
In online education, a high percentage of students who enroll are already academically at risk. One reason for the high level of at-risk student population is that the mobility rate, or the rate at which a child moves from one school to another school or district, in a typical school would be about 15-20% (Editorial Projects, 2014). The mobility rate of online schools averages 40%. With that comes risk factors for educational gaps and a higher percentage of students living in poverty. Twenty-one percent of children were living in poverty in 2011 according to the national census. That is the equivalent of 16 million children and, of that number, 2.8 million children live in extreme poverty (Luther, 2012, p. 35). Students who are living in poverty are more likely to move from one school to another, which is a substantial cause for educational gaps. As children get older these academic gaps increase and become more difficult to fill (Herbers, Cutuli, Supkoff, Heistad, Chan, Hinz, & Masten, 2012).

A key factor in teaching primary students to read includes their knowledge of pre-reading skills. Many times children in poverty are not exposed to vocabulary, stories, or letter recognition, or even taught how to write their names, before entering kindergarten (Luther, 2012, p. 37). Research is clear that students who score below target read less than their peers due to the fact that "poor readers are constrained by a lack of vocabulary development" and "often experience reading in a negative way" (Booth & Rowsell, 2002, p. 4). Payne (2005) states, “Without literacy skills, a child will probably be unable to break out of the intergenerational cycles of poverty” (p. 129). Children who are born into poverty have a difficult time rising above the poverty due to the fact that they are not given the basic language skills needed at home to develop into proficient readers.

The foundation of every child’s education is reading instruction no matter what type of educational model. Without a solid understanding of how to read, students will struggle in every
academic area whether it is math, science, social studies or language arts. The educational focus of primary students is to build phonemic awareness and phonics and fluent readers who can comprehend what they read (Wheaton & Kay, 1999). This is evident in the Ohio Department of Educations’ Third Grade Reading Guarantee (Wheaton & Kay, 1999). The question is how to teach reading to a K-2 student through an online model over the computer? There is a need for more scholarly discussion of teaching primary reading skills and online education for this age level. There appears to be a gap in research on this topic as limited studies have been performed on online education and primary reading skills.

Across the state of Ohio and nation teachers are being asked to implement the new learning standards that include a higher level of critical thinking. How well are online schools implementing these new learning standards? Specifically, what factors within an online school help students succeed in learning how to read? There are many studies out there that demonstrate what good, systematic reading/phonics instruction looks like (Davis, 2013). The question is, how does good phonics instruction get implemented through online instruction? Some areas to look at include learning coach engagement, type of instruction available (synchronous or asynchronous), time of year the student enrolls in the school, and the student's academic achievement level upon enrollment (Lips, 2010).

A big problem we have today in the United States is that children who are struggling to read by the end of third grade are likely to continue to struggle in school (Stinnett, 2014). Overall these students lack decoding skills, fluency, and comprehension. It puts individual students at a huge deficit when they lack the ability to read in a society that expects people to be able to read in order to survive and provide for themselves and their families. When young children fall
behind in reading achievement, they often remain behind throughout their schooling careers and this can be a prediction of their future success or failure (Foster & Miller, 2007).

The Ohio Department of Education has attempted to respond to this issue with the Third Grade Reading Guarantee. This program focuses on schools identifying students in grades kindergarten through third grade who are scoring below grade level in reading. Every K-3rd grade student is required to be assessed by September 30th or within 30 days of enrollment to determine their reading level. If a student scores below target the student is placed on a Reading Improvement and Monitoring Plan (RIMP) which is created by input from the teacher and parent. The RIMP includes the student’s areas of reading deficiency and the intervention plan to be implemented to get the student back on track with their reading by the end of third grade (Ohio Department of Education, 2014).

What can be done to develop our K-2nd grade students into strong readers prior to third grade? What are effective practices in teaching reading? Research shows a systematic phonics instruction is the most effective way to teach the majority of students (Davis, 2013).

Some key aspects of a positive school culture should include first and foremost the belief that every child can learn how to read (Boothe & Rowsell, 2002, p.34). Teachers try to instruct students many times utilizing the same types of reading interventions. They try to meet the needs of a variety of learning styles of students. They also try to engage students who may not be attending school for a multitude of reasons due to poverty, illness, family culture, or homelessness. Possibly one of the biggest keys to success is trying to engage parents in order to build a team approach to the student's learning process. In many ways the teaching needs are the same whether it is in a brick and mortar or virtual environment; it is just the model of instruction
that is different in online schools. More and more parents and students would like an alternative to education that the typical brick and mortar school does not provide.

Does parental engagement impact a child’s success in school whether the child attends an online or brick and mortar school? When considering online education at the primary level, parental engagement has an even greater weight on the child’s success. One of the primary keys to success in the online environment is parent engagement. It is evident when a parent is engaged and following the instructional plan the student can be highly successful. Even if the student is starting out with an academic deficit from a previous learning environment the one-on-one instruction taking place within the home, the differentiated curriculum model of the student working at their own instructional pace mastering the curriculum, and the small group instruction of the online classroom environment can create a winning learning environment for those students who are initially struggling (Lips, 2010).

**Rationale & Significance of the Study**

The Third Grade Reading Guarantee makes it very clear that there is a sense of urgency across the state of Ohio for all primary age students, students in grades K-3 to learn how to read on grade level by the end of third grade. If a child does not pass the Third Grade Ohio Achievement Assessment with a minimum cut score of 394, they are unable to be promoted on to the fourth grade (Ohio Department of Education, 2014). Ohio's Third Grade Reading Guarantee is a program to identify students from kindergarten through grade 3 that are behind in reading. Schools are directed to provide help and support to guarantee that students are on track for reading success by the end of third grade (Ohio Department of Education, 2014).

Due to the fact that online education at the elementary level is only a little over a decade old, there is limited research in the effectiveness of online education. “The majority of K-12
distance education research has been conducted in grades 6-12, the effectiveness of online learning for all grade levels is, at best, unclear” (Huett, Moller, Foshay, and Coleman, 2008, p. 65). This creates a sense of urgency to research the effectiveness of online literacy programs at the primary level. A key factor of online education at the primary level is parent engagement, meaning the parent, guardian, or adult who is working at home with the primary age student. Keys to parent engagement in an online school include communication with the licensed classroom teacher, student participation in live online classroom experiences, and student participation in daily completion of curriculum and school attendance. All of these require a high level of engagement from the parent, adult, or guardian in the online program along with the primary age student. Without these key components of an engaged adult working with the primary age student in the online environment, it is very difficult, if not impossible to make academic gains.

Primary level students, in grade K-3, are struggling to meet the reading fluency and comprehension standards set by the Ohio Department of Education. In the 2014-15 school year 94.1% of 3rd graders met the Third Grade Reading Guarantee (Ohio Department of Education, 2014). There may be value in providing an alternative educational model for those students who may learn better in a different instructional model. However, there is insufficient research in online education, especially at the primary level of education, to suggest that the online model can be more effective. It is important that we learn how to best serve the educational needs and learning styles of all students. Online education serves a population of students with health and behavioral needs that traditional brick and mortar schools may not be able to adequately serve. For example, one study “identified a rise in behavioral and emotional problems among preschool children, particularly in aggressive behavior” over a period of 10 years (Matijasevich, Murray,
Stein, Anselmi, Menezes, Santos, Barros, Gigante, Barros, and Victora, 2014, p. 1131). Huett et al (2008) identified “research concerning which distance education learning models work best with certain groups of students,” meaning that the online model could possibly be an optimal model for certain student populations (p. 65). Online education offers students of all ages an opportunity to work in a familiar environment without the distractions of a typical brick and mortar classroom. Students who have behavioral, health-related issues or exceptional learning needs may find a more optimal learning environment for their specific needs through completing their school work in an online setting.

There is also a group of students who are found to be high at risk for early reading skills that primarily includes students who are facing poverty and homelessness. These students typically have a high mobility rate moving from one school to another causing them to become midyear enrollees. Research shows that students who are homeless and have a high mobility rate are considerably at risk for academic achievement. These students generally lack early reading skills and remain low in achievement levels with gaps widening between them and their peers who are not economically disadvantaged (Herbers, et.al, 2012).

While there is a lot of research about “best practices” in teaching reading, online educators need to know how to implement those “best practices” online to meet the needs of individual students. Because every child has unique learning styles, learning needs, academic gaps or advances, an online model could possibly be the best placement for some children. Even if “best practices” are in place in the online K-2 school, it takes a highly engaged parent, guardian, or adult to partner with the teacher in order to achieve academic success. Online education is such a new adventure in education, research in this area is needed to direct educators in how to best serve this population of students.
This study will examine assessment data from an online school to determine the success of online reading instruction in K-2 students. It will also examine the impact of highly engaged parent, guardian, or adult on literacy instruction in the virtual setting. The research may support the online educational model as another option for students who are not learning to read in their traditional brick and mortar setting. Thus, online education may assist the Ohio Department of Education meet the goals of the Third Grade Reading Guarantee.

**Kindergarten through Second Grade Online Model**

This is a description of how the teaching team at a virtual school utilizes an extensive reading program implementing research-based interventions. Despite confidence that they can identify students who are at-risk of failure, critical components to success appear to be parental engagement, live online lesson attendance, and general progress in the online school. This dissertation will look at the effects of parental engagement in online learning. A few items of importance that will be addressed include the following: does a student who enrolls in an online school midyear typically score below their online peers and continue to score below their online peers even after subsequent years enrolled in the online school? Does parent, guardian, or adult engagement in online instruction have a significant impact on the success of students at the primary level in the area of phonics and literacy as compared to students of non-engaged parent(s), guardian(s), or adult(s)? Live online lesson attendance is an additional area of interest that will be reviewed to look for impacts on student academic growth.

**Building Teacher, Student and Family Relationships**

In an online school model, especially at the kindergarten through second grade levels, it is vitally important to be able to build relationships with both students and learning coaches. A virtual academy in a mid-western state has students from every county of the state and teachers
from every region of the state. The administration does their best to place students with teachers as close in regional proximity as possible at the beginning of the school year, so that students and parents have the opportunity to meet face-to-face with their online school teacher. When a student enrolls in the virtual school, the learning coach will receive an initial phone call from the assigned teacher. During this call, the teacher will introduce his/her self, take time to get to know the student and family, provide information about the school, and answer any questions they may have. The teacher will also invite the student and learning coach to a face-to-face Meet Your Teacher event that will be held the first week of school. The Meet Your Teacher events are held at a park or library in a strategic location around the state where primarily the students on that teacher’s class list live. During the Meet Your Teacher event, students and learning coaches will have the opportunity to meet their teacher, as well as other students and learning coaches within their class. The goal of the Meet Your Teacher event is to provide that relational foundation to start out the school year and also to inform the learning coach of the academic expectations for the end of the school year. The teacher will present what a typical school day should look like, what is necessary for good reading instruction, and what academic goals a child should reach by the end of the school year. The teacher will also observe the students and ask them to complete a writing activity in order to be able to know their academic achievement level at the beginning of the school year. The Meet Your Teacher events provide a great foundation for the school year. It helps both the student and learning coach connect with the teacher, putting a face to a name. Throughout the school year the teacher will have opportunities to get to know the student through daily live online lessons, one-on-one conferences, and additional outings, but the student may not always attend live online lessons or the teachers’ outings.
Teacher Pod Structure

The kindergarten through second grade team works together in pods of three teachers or teaching teams. What does this look like? There are grade level teams of teachers that have a lead teacher over each grade level. There is a northwest kindergarten pod, northeast kindergarten pod, southwest kindergarten pod, and southeast kindergarten pod. This divides the state up regionally. The pods of teachers are then assigned students in their region, so that they can be as close as possible geographically in order to host Meet Your Teacher events, outings, and state required testing such as the Kindergarten Readiness Assessment and Writing and Math Diagnostic Assessments.

Teachers within the pod also team teach. They provide daily instruction. For example, the kindergarten team hosts circle time every day at 11:00 for the whole pod where all three teachers are online teaching live together, including the Intervention Specialist, so that a full inclusion model is implemented. During circle time teachers provide instruction to the kindergarten students in the following areas: calendar, weather, feelings, and counting. At 11:30 the teachers then move the students to their phonics ability groups where each teacher within the pod teaches an ability group: on track group, below target group, and well below target group.

The pod meets on a weekly basis as a teacher-based team (TBT) to discuss their weekly data. Each teacher is responsible for collecting their data in a specific spreadsheet. They are asked to gather data from that week on the number of live online lessons attended, the number of curriculum lessons completed and specifically in what subjects: math and phonics/language arts, the number of Reading Eggs lessons completed, the number of Study Island math lessons completed, and their progress monitoring score for that week. Teachers discuss the research-based interventions that have been put in place. Teachers discuss if they feel the interventions are
working. They discuss if they feel if the lack of academic gains has to do with a lack of exposure or engagement in actual schooling. If that is the case, then a Success Plan is initiated by the teacher. All notes are documented on the TBT spreadsheet and posted in Share Point for the week. Notes for that student are tracked from one week to the next to see growth.

**Building Level Team Meeting**

The K-2 Team has a building level leadership team that consists of a lead teacher from every grade level, an instructional lead teacher, an Intervention Specialist lead teacher and the K-2 principal. This team holds a weekly meeting at the beginning of the week to discuss primarily data from AIMSweb Benchmark Assessments and Progress Monitoring, a universal screening and progress monitoring tool (see Appendix A-C for AIMSweb score report samples), live online lesson attendance hosted through Blackboard Collaborate, Reading Eggs and Study Island, additional online web-based tools, Individualized Learning Plans and TBT spreadsheets. The K-2 Building-Level Team (BLT) meets at the beginning of the week to create a focused agenda topic for all K-2 TBTs. The direct correlation of all data helps to build the professional development focus. It is this team that plans the professional development for the bi-weekly K-2 team meetings, bi-weekly grade level meetings, and the larger face-to-face professional development meetings that occur four times throughout the year. The BLT also meets face-to-face twice a year and includes the grade level At-Risk Specialist team members for a full K-2 leadership team meeting to discuss AIMSweb Benchmark data and student growth metrics. Through this analysis the K-2 BLT is better able to plan for the upcoming semester and school year to make greater academic gains.
Teacher-Based Team (TBT) Meetings

The virtual academy is a data-driven school and has found that teacher-based team meetings are a key to the success of teachers knowing their students on an individualized level. Teacher-based team meetings are held on a weekly basis. Those attending the weekly TBT meeting include the grade level lead teacher, all teachers within the teaching pod, the Intervention Specialist that serves that pod, the grade level instructional support team member, and, as scheduling allows, the grade level At-Risk Specialist. The K-2 BLT meets at the beginning of the week to create a focused agenda topic for all K-2 TBTs. At the beginning of the year, the pod agenda focus may be placing students into their phonics small groups for ability group instruction. Midyear, the focus may be looking at student engagement versus ability or exposure. At the end of the year, the discussion may focus on promotion/placement/retention in the next grade level.

Every week teachers spend time gathering the data from their class of students. They look at the number of live online lessons attended, the number of curriculum lessons completed and specifically in what subjects (math and phonics/language arts), the number of Reading Eggs lessons completed, the number of Study Island math lessons completed, and their progress monitoring score for that week. Teachers discuss the researched-based interventions that have been put in place. They discuss if they feel the interventions are working. They discuss if they feel if the lack of academic gains has to do with a lack of exposure or engagement in actual schooling. If that is the case, a Success Plan is initiated by the teacher. All notes are documented on the TBT spreadsheet and posted in Share Point for the week. Notes for that student are tracked from one week to the next to see growth.
During the TBT meetings, discussions are taking place between Intervention Specialists, instructional support teachers who are providing additional tutoring sessions, and lead teachers. The collaboration that is taking place during these meetings allows teachers to have input from multiple sources, so that they can implement additional research-based interventions that they may not have thought of previously.

**Live Online Instruction**

Live online lessons are provided to all students through Blackboard Collaborate. Students are offered daily reading instruction through live online lessons that is developed to meet the student at their instructional level. There are three main required components for every live online lesson. First, each lesson begins with a visual and verbal “I can” statement that is linked to a state standard. The content of the lesson must include research-based reading interventions. Every lesson must end with an individualized exit ticket that includes a writing component.

Online reading instruction progresses through foundational reading skills laid out in a curriculum map that includes phonemic awareness, letter sounds, phonics, fluency, listening comprehension, and vocabulary development. Blackboard Collaborate provides multiple ways for teachers and students to interact during learning. Teachers provide students with the opportunity to talk on the microphone individually and as a group for things like choral reading. Students are able to type in the chat answers to questions posed by the teacher. These answers can be visible to all students or just to the teachers. Students also have the ability to interact through the whiteboard using moveable pieces on the whiteboard and using the pen or typing tool to write on the whiteboard. For individual work or paired interaction students can be moved to breakout rooms to complete tasks such as paired reading. The teacher has the ability to rotate through the breakout rooms to make sure that all students’ needs are being addressed. She can
also bring all completed whiteboards back to the main room for students to share their work with the rest of the class. There are so many instructional options within Blackboard Collaborate.

Students are offered daily live online lessons through Blackboard Collaborate. Teachers teach in a pod structure where they team-teach in teams of three. This allows them the opportunity to provide ability group teaching. This has also provided a level of accountability and a way for them to share best practices naturally, which has increased the level of instruction in the classroom. It is important for the virtual K-2 teacher to provide phonics instruction due to the fact that this is an area that many learning coaches struggle to teach. That is why the online teachers teach this subject on a daily basis and provide additional small group sessions for students to attend. Teachers also focus instruction in the area of writing because this is another area that many learning coaches struggle to teach.

At 9:00 Tuesday through Thursday, the second grade students can log on to their live online lessons and be taught the second grade language arts composition curriculum. Second grade reading small groups take place throughout the rest of the school day according to the students’ reading level. At 10:00 Monday through Friday first grade students log onto their live online lessons for mixed skills. This includes math, phonics, and writing for students working in the on target range, performing academically according to their grade level expectations. At 10:30 students are moved to ability groups for more intensive phonics instruction on target, below target, and well below target. At 11:00 Monday through Friday, kindergarten students log onto their live online lessons for circle time where they review instruction in the calendar, weather, feelings, and counting. At 11:30 they move to ability groups for more intensive phonics instruction according to their ability group on target, below target, and well below target.
Throughout the day teachers provide additional small group sessions to meet the needs of students. They also provide one-on-one instruction.

**Small Group Reading Instruction**

Small group reading instruction is a vital component to building strong readers. The teachers place students in reading groups according to their ability based on their AIMSweb scores, their writing diagnostic scores, and online school progress. The content of the online small group reading lessons range from pre-phonics to reading fluency and is standardized. Every online lesson should open with an *I can* statement in student friendly terminology stating what the lesson objective is for that lesson, but it should also state what standard is being addressed within that lesson for the learning coach, who is also present. Lessons should be highly engaging, allowing all students to interact within the lesson multiple times throughout the lesson using the Blackboard tools. Every reading session should contain at least one research-based intervention. All lessons should be scaffolded to allow students time to practice I DO, WE DO, YOU DO format. The teacher models (I DO), teacher and students practice together (WE DO), and students practice on their own (YOU DO). There should be layers of learning throughout the lesson and every lesson should include an exit ticket that assesses the student on what was taught within the lesson.

**One-on-One Conference**

At the K-2 level it is very important to have one-on-one student/parent teacher conferences minimally six times throughout the school year. During these conferences, the teacher always speaks with the learning coach to find out how they are doing with the instructional component of the online school. Teachers provide individualized training in areas of classroom management, phonics instruction, organization, etc. as needs come up during the
It is as essential to communicate with the learning coaches and provide them with the training and support they need to implement instruction on a daily basis as it is to work with the student in the online classroom. The learning coach is spending 2 ½ hours with a kindergarten student and 5 hours with their 1st and/or 2nd grade student on a daily basis. The more support teachers can provide a learning coach with in setting up their classroom environment, how to use the curriculum, or how to teach to a particular student’s learning style, the more benefit to both the student and the learning coach in the end.

During one-on-one conferences teachers also spend time working with the student. Three times a year AIMSweb Benchmark Assessments are given, parent score reports are pulled and provided to the learning coach right during that same conference. Teachers make sure that the online school progress matches the student’s academic achievement level, so that the learning coach has the correct instructional materials for the student. Since the school curriculum is a mastery-based curriculum, the learning coach is working through the curriculum on a daily basis. Teachers want to make sure that the student has actually mastered the lesson content that has been marked off. Sometimes a learning coach marks off a lesson because they have completed the lesson, but the student takes the assessment and has not mastered that lesson. It is during these one-on-one conferences that teachers can get the student back on track if necessary. Teachers also have the student read out of their phonics readers and make sure that they are able to read at the level that their assessments have placed them.

Teachers also have students complete a writing assignment during these one-on-one conferences. This lets teachers know how a student’s writing ability is progressing. It also allows the teacher to give the learning coach feedback on what areas to work on for improvement or growth. These one-on-one conferences are invaluable to provide the teacher, student, and
learning coach the opportunity to communicate with one another and make sure the student is on track and making the necessary gains.

**Curriculum Placement**

When a student enrolls in the online school, they are assessed using the AIMSweb Benchmark Assessment probes according to their grade level. Many students come to an online model because they are struggling in their current school model. The reason may be that they are behind and struggling academically or ahead and bored at their current school. The beauty of a virtual model is that teachers can place a student in their math and phonics/language arts curriculum according to the student’s achievement level. A first grade student may enroll who is at a kindergarten phonics level and their teacher can easily give them the kindergarten phonics curriculum and a phonics small group at their current level. A first grade student may enroll who is reading at a second grade level and their teacher can easily give them the second grade language arts curriculum and a reading fluency group at their current level. Students do not have to start at the beginning of the kindergarten or first grade curriculum. Students take unit assessments as long as they continue to get a score of mastery, 80% or better. Once they have not mastered an assessment, they stop and the learning coach starts teaching at that point in the curriculum. A student could possibly begin at the second semester of the curriculum. The advantage of this is that a student does not need to waste any time completing lessons that they have already mastered. If they are working from behind they can fill in their learning gaps efficiently and move to an on-target placement. If they are working above grade level they can continue to move forward and not waste time working on grade levels concepts that they have already mastered.
At-Risk Process

When a student is identified as at-risk through multiple different ways, AIMSweb Benchmark Assessment, teacher identification, learning coach identification—the teacher will begin to progress monitor using AIMSweb. First the student is placed in the appropriate grade level curriculum in the subject area of math and phonics/language arts. The teacher helps to identify the unit within the course with which the student should begin. Next the student is assigned to a small group for intensive phonics instruction that utilizes interventions. On a weekly basis the student is progress monitored using AIMSweb. The progress monitoring results are tracked and discussed during the weekly teacher-based team meeting. If the student is not making academic gains, suggestions for additional interventions are made during the TBT.

It is recommended that the student is progress monitored for a minimum of six weeks, making sure that research-based interventions are provided in between the progress monitoring sessions. If a student begins to make growth then the teacher continues to use the interventions she has been using. If the student is not making growth, the teacher alerts the TBT and asks for additional suggestions. The possibility could be discussed that the student could not be receiving adequate exposure to the curriculum and or interventions outside of the online instruction.

If a student has been progress monitored for a minimum of six weeks, but on average twelve weeks, there have been discussions with the teacher-based team, interventions have been tried, and there is adequate exposure to the curriculum; but, the student is not making academic gains, the teacher will meet with the At-risk Specialist on her grade level team. The At-risk Specialist will review the progress monitoring data and make sure everything is in order before anything is forwarded on to the grade level school psychologist. Once the At-risk Specialist
gives the teacher the approval, the teacher will request the school psychologist to review the student’s data.

This at-risk process has been in place for two years and appears to be working very well. The At-Risk Specialist team consists of the K-2 School Psychologist, who leads the team; a grade level At-Risk Specialist, who is basically a grade level teacher who has proven themselves to work well with the data-driven instructional practices; and the K-2 principal. This team has met on a monthly basis to review processes, what types of referrals are being submitted by teachers, what types of trainings are needed for teachers, and how data collection can be streamlined.

**Success Plan**

If a student is not actively participating in the online program through live online lessons and the online school’s progress and attendance measures, the teacher will write a Success Plan for the student in order to encourage engagement. The Success Plan will state the weekly expectations for the student. The teacher will also ask for work samples to be either mailed or used the internal school e-mail to him/her on a weekly basis to document the work that is being marked completed in the online school. If the work samples are not received from the learning coach then the progress and attendance that was marked on the online school is removed.

Within the Success Plan the teacher will state how many live online lessons were attended that week and how many live lessons the student should have attended. The teacher will include screenshots from the online school of how many lessons were completed and how many lessons should have been completed. The teacher will include a screenshot of actual and expected attendance from the online school. The teacher will also include a snapshot from Reading Eggs stating how many lessons were completed that week and how many should be
completed. She will also state how many Study Island blue ribbons were completed that week with up to 13 in kindergarten to 26 in 2nd grade should be completed for the school year. The success plan will be sent through the internal school e-mail to the learning coach at the end of each week; so that they know what the expectations are on a weekly basis, what expectations they are meeting, and which ones they are not meeting. The Success Plan will be followed for six weeks. It has been found that typically by the second or third week the learning coach will either take hold of the expectations and make changes or nothing changes. If nothing changes, a truancy warning letter is requested by the teacher and mailed out to the learning coach. At this point the principal is notified of the situation and is requested to make contact with the learning coach. This would be an example of lack of student exposure to the curriculum and the at-risk process cannot proceed in these situations. A student has to have adequate exposure to the curriculum in order to move forward in the at-risk process.

**Staff Professional Development**

It is important that the staff professional development topics continue to move the staff forward in the knowledge and understanding of the data-driven instructional model. Both the calendar and topics should fit to directly impact the assessment and instructional calendar. The professional development calendar has been established to follow the assessment period, so that the teachers can be given necessary instruction and meet together as teacher-based teams face-to-face to establish their teaching small groups and coordinate their small group lessons.

It is also important to listen to what the team is saying. What areas of professional development are they asking for? A great example of this is a teacher who asked for additional professional development in the area of language processing, both expressive and receptive, so that appropriate interventions can be implemented by a general education teacher. It is also
important for the leadership team to be aware of any mistakes being made by the teaching team. Generally if mistakes are being made, it is due to a lack of training and that goes back to a lack of professional development. It is important to keep a running list of what professional development is needed by the team in order to keep everyone working at a level of excellence.

Sometimes training is needed in a one off situation and that is provided by a mentor teacher to the teacher who needs that specific training. It is not necessary to use the whole team’s time to train in an area that is only needed by one or two teachers.

The K-2 team is provided a weekly hour of professional development and this rotates every other week between whole team time and grade level time. During this time, the type of professional development that is delivered can be very specific. Every Friday morning the school provides all school professional development. This past year the focus has been on “Teach Like a Champion” instructional strategies.

**Teacher Mentor Program**

The online school has a very strong mentor program, which contributes to its academic success. When teachers are hired it does not matter how many years of experience they have in the classroom: they are considered a first year teacher for a full year and they receive a mentor teacher for that year. Being an online teacher is very different from being a brick and mortar teacher. It is like speaking another language and everything has to be translated from brick and mortar into virtual. Once teachers understand the language it becomes second nature, but it does take a full school year cycle to know and understand because the beginning of the school year is very different from the end of the school year.

A mentor checklist is provided so every teacher receives the same training, no matter who their assigned mentor teacher is. New teachers also receive training from their grade level
lead teachers along with about 60 hours of online instructional training. Additional mentoring is provided on a one-on-one basis as the leadership team sees individual teachers need training.

**Research-based Reading Interventions**

It is important that teachers are using research-based reading intervention strategies for students who are working through the at-risk process. If a student is being progress monitored it is necessary that they have received instruction minimally once a week using a research-based reading intervention strategy implemented by the classroom teacher. Teachers can send these strategies home to also be used by the learning coach; but, for the integrity of the process, it is necessary that the strategy is implemented and documented by the teacher.

The K-2 school psychologist has compiled a research-based reading intervention notebook to use with the AIMSweb probes in which the students are progress monitored. For example: if a student is being progress monitored on Letter Naming Fluency, the suggested intervention is Incremental Rehearsal. If a student is being progress monitored in Letter Sound Fluency it is suggested that the teacher use Incremental Rehearsal or Sound Bingo. If the student is being progress monitored in Nonsense Word Fluency it is suggested the teacher use Elkonin Boxes or Say and Move It. To increase reading fluency, the recommend interventions are Repeated Reading and Paired Reading with the student. This method of using research-based reading interventions has allowed the leadership team to standardize the reading intervention process, so that when a teacher has gathered all of her data and submits it to the school psychologist, she knows that she has used the expected reading interventions..

**Special Education**

The virtual academy has a full inclusion model where the students on an Individualized Educational Plan are invited to all live online lessons that the general population is invited to.
The Intervention Specialists attend the general education teacher’s sessions as often as their schedules allow. All students have access to all school outings and all general education curricula. The Intervention Specialists are grade level specific with their caseloads. Intervention Specialists provide additional opportunities for students to meet to work on necessary skills to meet specific IEP goals that may not be met in the general education classroom. Behavior groups are provided where students have small group situations to work on behavior skills.

**Individualized Learning Plan**

One hundred percent of the student population receives an Individualized Learning Plan that states whether the student has been previously retained, what instructional model the student is participating in (synchronous or asynchronous), all testing data (including on track/off track results), portfolio information (including on track/off track results), personal goals for both the parent and student for the school year, Study Island completion, Reading Eggs completion, Writing goals, and any necessary interventions. The Individualized Learning Plan also serves as the Reading and Improvement Monitoring Plan as required by the Third Grade Reading Guarantee. If a student is scoring below target on the AIMSweb Assessment, the teacher will add additional progress monitoring data and weekly interventions to the Reading and Improvement Monitoring Plan. This is the same data that is also housed in the teacher’s TBT spreadsheet for the student. The teacher discusses the data with the teacher-based team in order to get team input to best support the student. Every week the teacher gathers the following student data: number of live online lessons attended, the number of lessons completed and specifically in what subjects (math and phonics/language arts), the number of Reading Eggs lessons completed, the number of Study Island math lessons completed, and their progress monitoring score for that week. Teachers discuss the researched-based interventions that have been put in place. They discuss if
they feel the interventions are working. The Individualized Learning Plan is sent through the internal school e-mail to the learning coach minimally three times a year: beginning, middle, and end-of-year.

**Additional Programs and Supports**

The curriculum of the online school engages young minds with a rich combination of online interactive and offline hands-on learning. Teachers know that it is important to embrace and “dig into” the curriculum to reap the full benefits. It is communicated that students must complete 100% of the core lessons for each subject before the next course is ordered. Learning coaches should understand how important it is that their student is placed appropriately in the areas of math, phonics and language arts. If something is too difficult or too easy, it is important to have a conversation between the learning coach and teacher. Lessons should not only be marked complete, but the concepts within those lessons should be mastered by the student. Learning coaches are responsible for marking attendance and lessons mastered on the online school on a daily basis.

Instructional support teachers are grade level specific and provide additional live online lessons to students who are scoring below and well below target according to their AIMSweb Benchmark Assessments. These teachers do not have their own class loads, but provide five to six small group reading sessions on a daily basis. This allows students who are reading below grade level additional reading instructional opportunities to be able to fill in those academic gaps. The additional sessions provide students small group instruction at their reading level. The instructional support team members then attend the teacher-based team meetings to report out to the teachers how their students are doing within the additional live online lessons.
Reading Eggs is an online pre-reading and early reading skills program that presents letter recognition, letter-sound associations, and other skills in a fun interactive way. If students are already reading, they use Reading Eggspress, which is designed to build reading fluency and comprehension skills for students with 2nd-7th grade reading levels. Because of the online, interactive environment, these programs are highly motivating. Students can earn rewards as they learn and improve skills in comprehension, spelling, grammar, vocabulary and reading. There is an online library with more than 700 books appropriate for 2nd-7th grade skill levels.

The school also provides students who are scoring below target on their AIMSweb Benchmark Assessment Leap Frog DVDs: *Letter Factory, Talking Words Factory, and Code Word Caper* to provide these students with additional phonics skills and support them in working towards reading independently. Learning coaches are encouraged to have their students watch these DVDs on a daily basis until they master the content skills. Anecdotal comments of teachers suggest that students are able to master these concepts quickly by utilizing these instructional tools.

**Parent Support**

The online model of education relies on partnership with parents/learning coaches, so learning-coach training is provided throughout the school year to train, equip and empower them. Teachers would never expect a kindergarten through second grade student to log onto the online school on a daily basis by themselves or to sit in front of the computer for 2 ½ hours for kindergarten or 5 hours for first or second grade. Young children would not be able to pay attention and learn everything they are supposed to learn for the school year independently. The K-2 virtual world is very dependent on the learning coach who has signed up to be at home with their kindergarten through second grade student.
Teachers know that it is important for us to invest in the parent/learning coach almost as much as they invest in the student. Teachers could not instruct the students without the parent/learning coach logging in everyday to the online school and live online lessons. The Meet Your Teacher events at the beginning of the school year provide a starting point to this parent training: What does good phonics instruction look like? What are our end-of-year academic goals? Teachers continue to offer grade level parent training with online sessions that are also recorded and can be viewed later. These include topics like how to get organized, classroom management, how to manage the curriculum, required state testing, etc. Parent training sessions are offered on a monthly basis throughout the school year. The key to a good working relationship with a learning coach is open communication. Teachers and administration do their best to communicate on a consistent basis through school e-mail, phone, and scheduled conferences.

State Assessments

All public school kindergarten students participate in the Kindergarten Readiness Assessment (KRA). This assessment provides information for families, as well as teachers, to help children learn and grow. It covers six areas: Social Skills (including the way students learn), Language and Literacy, Mathematics, Science, Social Studies, Physical Well-Being and Motor Development. The KRA is a face to face assessment.

First through second grade students are required by the Ohio Department of Education to take the Writing and Math Diagnostic by the end of the school year. These diagnostic assessments are completed at the beginning of the school year so that there is a face-to-face writing assessment on the students and teachers know who needs their focused support. Teachers work with their students during live online lessons and through the curriculum. Kindergarten
students are expected to be able to write a complete sentence, 1st graders are expected to write a 3 sentence paragraph, and 2nd graders are expected to write a 5 sentence paragraph.

The virtual academy uses AIMSweb Benchmark Assessments as its state approved alternative diagnostic reading assessment to assess all students by September 30th and within 30 days of enrollment. These AIMSweb Benchmark Assessments are given three times throughout the school year: fall, winter and spring. The first assessment is given the month of September during a scheduled, one-on-one, online appointment with the student’s assigned teacher. The purpose of these assessments is to find out the student’s achievement level in the areas of reading and math. This snapshot provides learning coaches and teachers with information that can be used to move forward in working together to help students. This student data helps guide instruction at the appropriate level. It also establishes learning targets in specific areas.

End-of-year Academic Goals

The end-of-year academic goals are provided to the learning coaches and students at orientations and Meet Your Teacher events. Kindergarten end-of-year academic goals include students being able to read short vowel or CVC words and phonics reader #5 from the curriculum. Typically, kindergarten students read on average about 20 wpm at that level by the end of the school year. For first grade, AIMSweb suggests that the average first grade student should be reading 53 wpm, but the online school sets the minimum for first graders at 40 wpm. For second grade, AIMSweb suggests that the average second grade student should be reading 92 wpm, but the online school has set the minimum for second graders at 75 wpm.

For writing, teachers work with students during live online lessons and through the curriculum. Kindergarten students are expected to be able to write a complete sentence, 1st graders are expected to write a 3 sentence paragraph, and 2nd graders are expected to write a 5
sentence paragraph. Students are asked to complete exit tickets during live online lessons and weekly writing samples to be returned to their teacher via school e-mail, so that teachers can monitor student progress and support them with feedback.

**End-of Year-Synopsis**

The end-of year-synopsis (see Appendix D for End-of Year-Synopsis header), is written for each student at the end of the school year as a snapshot for every student and is placed in the notes section for the student. Attached to the synopsis is the progress report, spring AIMSweb Benchmark score report, and the final copy of the student’s Individualized Learning Plan. The end of the year synopsis contains all detailed information about the student in one note for the next year’s assigned teacher. It includes information about the student if the student was promoted, placed, or retained; what grade level the student should be in; if the student was retained, the reason for that; and any previous retention history. It also includes the recommended instructional model for the following school year whether that is synchronous or asynchronous. It includes online school progress completed, Study Island and Reading Eggs completion, whether the student was progress monitored using AIMSweb the previous school year, what the student and learning coaches engagement level was, if the student was on a success plan or had a truancy warning letter sent due to progress or attendance concerns. The teacher has the opportunity at the end of the year to request a schooling concerns letter that states that the online school may not be the best educational fit for the student and/or family due to lack of engagement. It also includes additional supports and interventions provided including instructional support and Leap Frog DVDs. Spring AIMSweb benchmark scores are included in this information.
The end-of-year synopsis is completed in a spreadsheet format first so that everything is in one place. This allows the data from the school year to be combined in one location, looking at the interventions provided, instructional model, and engagement level. The synopsis is then placed into Student Notes for the next school year’s teacher to have available to him/her to plan for instruction before the next school year begins.

**Purpose of Study**

The purpose of this study is to determine the impact an engaged parent, guardian, or adult can make in online instruction at the primary student’s level in particular in the area of phonics and literacy as compared to a non-engaged parent, guardian, or adult. Current applicable research would include reading instructional practices that are used in the traditional brick and mortar classroom and can transfer to an online environment. Additional research about parent engagement in a traditional brick and mortar school and the impact that has on a child’s academic success also adds value to this study. This is evident as written on the Ohio Department of Education’s website where the role of the family is noted. “The State Board of Education of Ohio recognizes parents and families as children’s first and most important teachers. When parents enroll their children in school, from preschool through high school, the responsibility of education and care is shared with the school and the community. Partnerships among families, schools and communities that are child-centered and family-strengthening can engage, guide and motivate students to be productive citizens in a global society” (Ohio Department of Education, 2013). It is encouraging to note that the Ohio Department of Education recognizes the importance of the parent’s role as the most important one in the education of every student. In online education, the role of the parent, guardian, or adult is even
that much more important due to the fact that the student is working from a remote location and must be guided by an adult to participate fully in the online program.

This research will provide information for all current stakeholders of online education to make educated decisions when considering online instruction including the students, parents, teachers, and administrators of online schools. Other stakeholders include online school operators, charter sponsors, Ohio Department of Education, and those involved in online education nationally. There are so many that have a stake in online education at this point.

**Theoretical Framework**

The theoretical framework of this study will be transformational change theory due to the paradigm shift from a brick and mortar to an online education. The transformational change allows for collaboration and change in a positive direction, taking what is working in reading instruction in a brick and mortar model of education and transferring it to an online model. This study will look at transforming education through problem solving and goal setting for the future utilizing radical breakthroughs in technology.

Transformational change has theoretical underpinnings with Joel Barker, a futurist who has worked with corporations, institutions and governments speaking and writing about visionary leadership and foreseeing the effects of change. In his article *Leading in Uncertain Times*, Barker states that successful leadership takes decisive action (Barker and Kenny, 2011). He maintains the importance of leaders understanding the implications of unintended consequences of their actions. His goal is to not only identify the solution to a problem but more importantly, identify the long-term effect both positive and negative of the solution being implemented. Barker developed the implication wheel that allows organizations to tap into their most valuable resources, their employees. He does not think moving slowly and strategically is the best
solution, but rather emphasizes being able to predict and learn about the future prior to it happening in order to make the best decision overall. He compares this to a scout being sent out ahead of a wagon train in order to identify the lay of the land prior to moving the wagon train forward. It is important for the leader to have the best information in order to make the most informed decision for the long term. Barker calls this cascade thinking and asks leaders to go minimally three steps out in order to identify any unsuspected long term concerns. As Barker states in *Scouting the Future*, related topics of interest include “emerging trends, innovations, policy changes, new laws, strategic objectives and goals, and big events” (Barker, 2017).

Alfie Kohn also adds a theoretical perspective for this study by providing an understanding that too much praise creates a lack of motivation within students in terms of self-direction. In Kohn’s article, “How to Create Nonreaders Reflections on Motivation, Learning, and Sharing Power,” he quotes J. Reeve, E. Bolt, & Y. Cai stating “Autonomy-supportive teachers seek a student’s initiative…whereas controlling teachers seek a student’s compliance” (Kohn, 2010, p. 1). Kohn suggests that teachers provide students the opportunity to make choices within the classroom, not only choosing what they are going to do to learn a concept or show they have mastered a skill but also to develop the choices of how they will demonstrate these things. This allows for the traditional teacher centered classroom to be transformed into a student-centered classroom for “what matters is not what we teach; it’s what they learn” (Kohn, 2010, p.7).

In Kohn’s article, *Five Reasons to Stop Saying “Good Job!”* he asks if we are praising students for the job they have done or are we praising them to manipulate their behavior, creating a dependency within children for praise rather than completing the actual task. According to
Kohn research shows that the more people are rewarded for completing a task, the less likely they are to continue to develop that skill. Kohn recommends that adults take the approach to “Say what you saw.” A simple, evaluation-free statement—“You put your shoes on by yourself" or even just “You did it” tells your child that you noticed (Five Reasons to Stop Saying "Good Job!" (Kohn, 2001, p. 5). Kohn provides the virtual teacher with a framework to utilize the tools provided by an online learning environment to develop self-directed learners who are learning for the value of learning.

This is a quantitative methods study. The first part of the quantitative component will determine the engagement level of the parent, guardian, or adult who is responsible for the instruction in the home of the online student. The licensed homeroom teacher will utilize a rubric designed by the online school to determine the level of parental engagement. The rubric includes the key aspects of parent engagement, including communication with the licensed classroom teacher, student participation in live online classroom experiences, and student participation in daily completion of curriculum and school attendance.

The second part of the quantitative component will include a comparison between students who enroll at the beginning of the school year and students who enroll midyear, comparing their assessment results in terms of academic gains.

The third part of the quantitative component will track student Fall and Spring Benchmark Assessment scores in the area of reading to show growth from the beginning of the school year to the end of the school year. This data will be compared with engaged and non-engaged parent, guardian, or adult according to the rubric utilized by the homeroom teacher. After data is collected and analyzed, themes will be developed. The data is then analyzed for student academic growth in the area of reading to determine how the engagement level of the
parent, guardian, or adult plays a role in the students' academic success. This study is timely and relevant to the field of online education in terms of the impact the engagement level of the parent, guardian, or adult has upon the success of the primary level student’s reading ability.

**Research Questions**

Overall, this study examines the academic growth in reading in primary-age students enrolled in an online school. Specifically, the research questions that will guide this study are:

1. What factors determine success in online instruction for primary age students: attendance at live online lessons that utilizes research-based reading interventions, student and learning coach engagement levels, and/or online school progress?
2. Does the time enrolled in an online school have a positive impact on the reading diagnostic assessment scores of primary age students, showing a difference between students who enroll midyear and those who enroll at the beginning of the school year?

**Definition of Terms**

The definitions below provide clarity regarding the key terms used in this study.

**AIMSweb.** “At the foundation of AIMSweb is general outcome measurement, a form of curriculum-based measurement (CBM), used for universal screening and progress monitoring. This form of brief assessment measures the overall performance of key foundational skills at each grade level and draws upon over thirty years of scientific research that demonstrates both its versatility to provide an accurate prediction of reading and math achievement as well as its sensitivity to growth” (AIMSweb, 2014).

**Brick and Mortar School.** A brick and mortar school setting refers to a traditional school setting where a student actually goes to a building to attend school (Kokemuller, 2014).
Engaged Parent. Key characteristics of an engaged parent include communication with the licensed classroom teacher, student participation in live online classroom experiences, student participation in daily completion of curriculum, and school attendance.

Learning coach. Responsible adult of the student enrolled in the online school, typically a parent, but could possibly be a grandparent, relative, or childcare provider as designated by the legal guardian of the student.

Live online instruction. Online virtual class session hosted on Blackboard.

Mobility rate. Student mobility is defined when a student moves from one school to another within the same school year. This creates a learning deficit for the student and puts the student at risk academically behind their peers (Thompson, 2011).

Online School. An online or virtual model refers to a school where student logs onto their classes through a web-based program (Kokemuller, 2014).

On target. When a student is performing academically according to their grade level expectations (Aimsweb, 2014).

Reading Eggs. A pre-reading and early reading skills online program that presents letter recognition, letter/sound associations.

School e-mail. Internal e-mail communication that can be sent to the student or learning coach from the teacher, administrator or someone from within the school and how the learning coach and/or student can communicate with school personnel.

Share Point. An internal web-based tool where teachers can share lesson plans and instructional tools.
Study Island. An online tool that provides a variety of ways for students to learn common core standards through games, flash cards, quizzes and printable worksheets. Students can earn blue ribbons while showing proficiency levels in math and reading.

Success Plan. An internal communication document between the teacher and learning coach to communicate actual and expected attendance hours, actual and expected progress, live online lesson attendance, Reading Eggs and Study Island lesson completion. This document is utilized to help provide a tracking system for students who are struggling to complete their daily work.

Teacher-Based Team (TBT) Spreadsheet. An internal spreadsheet that helps teachers to monitor students AIMSweb progress monitoring, live online lesson attendance, daily school attendance, online school progress, Reading Eggs lesson completion, Study Island lesson completion, and interventions provided.

Third Grade Reading Guarantee. According to the Ohio Department of Education, this is designed to make sure every student achieves the ability to read on grade level by the end of third grade (Ohio Department of Education, 2014).

Delimitations

The student sample size range is on average 500-750 students per grade levels K-2nd Grade. This will be a quantitative study. The data will be pulled from the 2014-15 and 2015-16 End-of-Year Synopsis. A rubric will be used to determine the engagement level of the parent, guardian, or adult working with the student. AIMSweb is the assessment tool used to measure and track academic growth of the students involved in the areas of reading. Research-based interventions will be utilized during live online lessons with students who are scoring below target. These students will also be progress monitored using AIMSweb. Data will be compared to
understand the differences between students who enroll at the beginning of the school year and students who enroll midyear to determine if that makes a difference in the academic success of the student.

Limitations

This study should be of interest to the field of online education, but it does have limitations in the fact that there are multiple types of online school models and research for this particular study was primarily taken from one online school. Just as there are different types and levels of effective traditional brick and mortar schools, there are different types and levels of effective online schools. An additional limitation is that the researcher is employed by the online school from which the research data was taken.

Researcher Bias

The biggest researcher bias for this study is the fact that the researcher is working within the field of study and is extremely passionate about the research being studied. As a researcher, objectivity will be a key to gaining depth of knowledge from the data that is gathered, analyzed and discussed. The second biggest area of researcher bias concern is the lack of research that has been completed in online education at the primary level. The researcher hopes this study can lay a foundation for what “best practices” in reading instruction looks like at the primary level in online education. There are many questions about what that model of instruction looks like and how it correlates with traditional instruction, including grade-level reading goals and research-based interventions.

An additional piece that makes the research challenging is the multiple options and layers to measure. There is a variety of available data and narrowing down the direction of the research can be challenging. This includes the grade levels of the students, the AIMSweb scores, the
demographics, whether the student is identified as special needs, the mobility rate, and the engagement level of the parent or adult working with the student, a key piece that impacts the academic success of the primary level online student.
CHAPTER II. LITERATURE REVIEW

Introduction to the Research Literature

This literature review examines the components of instructional reading practices that establish developmental reading skills in students in grades kindergarten through third grade. It will also address deficiencies found within the students who are not reaching grade level expectations. The Ohio Department of Education has implemented the Third Grade Reading Guarantee to assure that all students will be reading on grade level by the end of third grade. If students are not reading on grade level by third grade, they typically still struggle academically in their ninth grade year. This pattern can predict if students graduate from high school (Gullo, 2013). The necessary components of reading practices included in this literature review include best practices in reading and online education, the assessment cycle, reading interventions used for at-risk students, reading interventions for low-income learners, parent involvement, student mobility, and instructional coaching. Each of these components is necessary for foundational reading instruction in an online environment.

Best Practices in Reading Instruction

Research validates how important having students reading at grade level by the end of third grade is. According to Gullo, "Children shift from ‘leaning to read' to ‘reading to learn’" (Gullo, 2013, p.414). When children have not mastered basic reading skills, vocabulary, and comprehension, they are at a great deficit when they move into subject-area content reading. Third grade reading scores are predictors of high school dropout rates (Gullo, 2013). According to the authors, the graveness of this issue is evident when school failure predicts those who are on public assistance and a high percentage of those who fail in school end up incarcerated (Stinnett, 2009).
Stinnett (2009) found that language and literacy education begins early at home prior to the student ever entering kindergarten. Building students’ exposure to vocabulary and print is important. In low-income areas, it is important to partner with families to provide quality childcare opportunities with Pre-K options to support families in building a literacy base. Providing home visits to engage parents and books for home use is essential to building pre-reading skills (Stinnett, 2009).

There has been a long-standing debate over whether to teach phonics or whole language and findings from the Report of the National Reading Panel: Teaching Children to Read published in 2000 show a systematic approach was the most effective way to teach phonics. The report also recommends a balanced approach that includes these key components: phonemic awareness; systematic, sequential phonics; fluent, automatic reading of the text; vocabulary development; text comprehension strategies; spelling and handwriting; and written composition strategies (Willows, 2002). The literature suggests beginning formal literacy instruction in kindergarten and first grade.

Phonemic awareness, along with students’ ability to identify letters, has been found to be the best predictor of success in the first two years of school in kindergarten and first grade according to the Report of the National Reading Panel: Teaching Children to Read (2000). It teaches children how to understand the spoken word and ultimately the written word. Phonemic awareness has been found to support multiple levels of learners whether students are learning at a normal pace, are at an at-risk level, or have a disability. Studies have been conducted with one-on-one instruction, small group, and whole classroom instruction. Small group instruction has been found to be the most beneficial, showing the most gains with an average session lasting
approximately 25 minutes. Students can be placed in groups according to their current developmental level (National Reading Panel, 2000).

Other findings of the National Reading Panel (2000) suggest that students want to perform in front of their peers. Students also learn from one another by listening to each other and receiving feedback from one another. Phonemic awareness, coupled with reading instruction amongst first grade students, allows them to apply their phonemic awareness skills in their reading and boosting overall reading skill. Phonemic awareness not only helps preschoolers through first graders to become better readers, but also creates better spellers amongst every group except students with disabilities. It is important to begin instruction with a pretest so that teachers have a starting point for instruction and then evaluate the effectiveness of instruction through posttests (National Reading Panel, 2000).

According to the National Reading Panel (2000) reading fluency is essential for students to be able to place their cognitive efforts into comprehension rather than decoding. This allows for the reader to read efficiently and with minimal effort. Assessing student's oral reading should be done regularly to show growth in both the student's rate and comprehension so that teachers can provide instruction in areas needed. Forty-four percent of fourth graders were not able to read fluently in fourth grade level material. Data does reflect that poor readers typically remain poor readers, but the gap does not continue to widen: it just maintains. Good readers do read more than poor readers because reading is more enjoyable for them (National Reading Panel, 2000).

Lehman and Roberts (2014) have found with the move towards Common Core Standards there has been an increase in close reading. Close reading is defined as the reader being involved in the text and interacting with the text to the point of rereading the text. This is how good
readers are developed. When students engage in the application of reading, independence is gained (Lehman et al., 2014).

The National Reading Panel (2000) suggested that reading comprehension is related to fluency in the reading process and is a cognitive process that requires vocabulary development. It is important for reading fluency to be automatic in order for cognitive focus to be on comprehension and connection of text. There are multiple ways of teaching and monitoring comprehension including cooperative learning, graphic organizers, answering the 5 W questions, summarization, answering teacher generated questions, and answering student generated questions. Appropriate vocabulary instruction includes the following: explicit, implicit, multimedia, capacity, and association (National Reading Panel, 2000). In 2000, the National Reading Panel found that there has not been a lot of research completed in the area of vocabulary instruction, which is one of the most important areas of comprehension instruction (National Reading Panel, 2000).

According to Allington (2013), all children should be able to read by the end of first grade. Every teacher should be able to teach reading in multiple ways to be able to meet the learning styles of different children. Many times struggling readers are left to work with paraprofessionals rather than trained teachers. Only 23% of first grade teachers actually provided reading lessons that were found to be of high quality. It is highly important to match the text's readability with the student's reading level in order to ensure student success. Struggling readers do not get enough reading time on a daily basis while good readers get a greater amount of silent reading (Allington, 2013). However, additional silent reading time was not found by the National Reading Panel to support increased reading ability, but an increased amount of oral reading did show gains in reading proficiency (National Reading Panel, 2000).
Online Learning

A research article by Project Tomorrow (2011), found that technology education is being driven by increased interest from teachers and administration. In addition, students and parents are expecting technology use in the classroom. The sample size of this study included 294,399 students, 42,267 parents, and 35,525 teachers that completed a survey. The results showed that both teachers and administrators recognize the potential of technology in the classroom as long as there is training for the teacher prior to use. Parents and students are demanding increased technology in teaching and learning that potentially doubles instruction according to this study. The results of this study confirm the tremendous potential for online education.

Online education, when used effectively, offers students an individualized learning plan where students and teachers can define their own personal learning goals. This aspect of personalization helps to maintain student engagement throughout the learning process in a way that is not usually available in the traditional brick and mortar setting. Both parents and students, as stakeholders in the learning process, are seeking more effective uses of technology in the classroom while they become more familiar with technology themselves. Parents are becoming increasingly tech-savvy, leading to higher expectations of technology use in the classroom. For example, sixty-seven percent of parents reported using smartphones in 2011 (Project Tomorrow, 2011). Project Tomorrow (2011) polled teachers and administrators and found that they are becoming more interested in providing technology in the classroom. Homework is the top reason for the use of technology in the traditional classroom, but it has many additional benefits that enhance student learning. Elementary teachers use technology in their classrooms because it increases student motivation by 62%, it allows greater creativity by 38%, it develops critical thinking skills by 28%, allows students to take ownership of their work by 24%, allows more
student collaboration by 24%, and increased participation by 29%. Technology also helps elementary teachers to ‘be better organized by 56%, more productive by 48%, more student centered by 40%, to teach more relevant lessons by 35%, have better classroom management by 26%, more interactive lessons by 39%, and have a better ability to differentiate achievement by 34% (Project Tomorrow, 2011, p. 6).

Elementary teachers also have concerns about using electronic devices within the classroom including: too distracting at 61%, providing digital equity at 59%, cheating on tests at 17%, teachers lack knowledge about integration at 28%, students responsible use at 30%, and finding age-appropriate resources at 61% (Project Tomorrow, 2011, p. 9).

Online learning offers students more course opportunities, a more personalized learning plan, and the ability to work at their own pace. It can also meet the needs of those students who have medical or physical needs that are not easily met in traditional brick and mortar classrooms. When virtual education first evolved, it primarily met the need of teacher shortages or specific courses not being offered in a rural setting. In Vasquez's (2011) study, the remote location of the students and need for reading tutors were the biggest reasons for online educational tutoring. Vasquez (2011) found that only 8.9% of students across the United States that actually qualified for tutoring services received those services. The Huet, Moller, Foshay, and Coleman (2008) study found that the quality of education had to do with the teacher, not the student or mode of learning, whether the student was learning online or face-to-face.

Alternative education came into being with No Child Left Behind (Huet et al, 2008). Online charter schools soon developed. A major concern is that the online charter schools have become the last option for credit recovery when, in reality, online schools could be a viable alternative if used appropriately. Indeed, according to Huet et al. (2008), they most likely are not
the best option for credit recovery students. Online education is expanding to offer more course options. It offers a personalized learning plan for students and allows them to get necessary help working at their own pace (Project Tomorrow, 2011).

Huet et al (2008) suggest that many students with different learning styles and learning needs can perform well in an online environment. Online education has great potential as an educational medium. Students, who have medical needs, live in rural settings, have commitments that keep them from attending traditional schools, are home-schooled, or are employed could utilize an online model of education. Online education can offer a form of independence that traditional schooling does not allow. Synchronous courses can provide both teacher and student interaction while asynchronous courses allow students to work more independently. A student must be self-motivated and self-regulated to be able to work in an online environment effectively. Younger students require more direction and supervision (Huet et al., 2008).

Most research that has been completed in online learning consists of comparing online education to traditional education models. Results suggest that students can achieve equally in either environment. Huet et al. (2008) suggest that the research needs to move to looking at the quality of instruction and successful teaching within online education. This is due to the fact that teachers are not educated to be online educators, so assuring that online teachers are instructing at a quality level is a necessity. The focus should be on designing the course or creating a course shell and then looking at the quality of associated instruction and how engaging it is to the learner (Huet et al., 2008).

Online instruction was found to be successful with young children due to the fact that they have become accustomed to working with technology. In 2000, the Report of the National Reading Panel: Teaching Children to Read reported the effect size was smaller for students
learning to read with technology than for students working with teachers, but it is clearly stated that this is an area where there was a gap in the research, at least in 2000.

According to Vasquez (2011), online tutoring has its benefits as well. Synchronous instruction allows for one-on-one tutoring to take place even when students are living in remote locations. Technology allows students to have access to quality teachers no matter where they live, at any time, and from any location. If online tutoring happens from the home, the tutor may have direct access to the parent for follow up. Some of the negatives found in this study were the quality of the sound, voice and visuals over the computer (Vasquez, 2011).

**Assessment Cycle**

In a research article by Black (2014), three questions were addressed. First, how do teachers measure the learning that takes place? Second, how is the assessment data used? Third, what factors influence the assessment results? The sample included four elementary school teachers. The findings of this study conclude that teachers use assessment to improve student learning, formative assessments were used inconsistently, there were inconsistent approaches to using observation as an assessment piece, and internal and external factors create tension in the assessment process. All of these results combine to confirm that classroom assessment is necessary to direct teaching and learning. The Black study showed that assessments should be given consistently throughout the school year and with fidelity in order to be found effective. The findings are consistent with the K-2 online model previously presented where teachers use assessments to group students for instructional purposes and note the influence of internal and external factors of student and learning coach engagement, live online lesson attendance, and overall progress on the learning process, which in turn affects the assessment process.
The first stage of the assessment cycle involves planning and preparation to define the purpose of the assessment strategy (Fowell, Southgate, and Bligh, 1999). An assessment blueprint (Fowell et al., 1999) or item analysis can be helpful at this level (Martone, 2009). According to Fowell et al. (1999), the second stage includes developing and implementing the assessment, followed by staff professional development. Stage three of the assessment cycle includes an effective presentation of results, including assessment feedback to the teacher-based team, students, and parents. Stage four includes evaluating the assessment and is often overlooked: this stage points back to curriculum planning and the actual process of assessment (Fowell et al., 1999). Overall, evaluation of assessments is a continuous cycle, including the assessment practice of classroom teachers and how it directs the instruction within the classroom. Assessment should be the starting point, not the endpoint for instruction.

Assessments are used to inform the instruction taking place within the classroom. Diagnostic assessments are given before instruction begins to give a baseline of where the students are starting (Black, 2014). Formative assessments happen more frequently. They are also known as short-cycle assessments (Black, 2014). These types of assessments are typically completed during class and used by the teacher to improve student outcomes. Various types of formative assessments include exit tickets, homework, observations, and student surveys (Black, 2014). Formative assessments can also be an external or vendor assessment. Interim assessments are long-cycle assessments and should be developed prior to instruction (Riggan, 2011). Riggan (2011) stated these types of assessments can be used to identify those students who need intensive instruction (Riggan, 2011). The interim assessments typically do not change the instruction taking place within the classroom and are limited in showing the individual student's problem-solving strategies (Riggan, 2011). Interim assessments provide support for professional
development amongst teaching staff. The administration can ultimately review the results of the assessment data to guide instruction. Summative assessments are used at the end of the year and allow for end of year comparisons across classrooms. At the district level, standardized tests are used to look at overall performance goals and large-scale accountability (Riggan, 2011).

Black (2014) stated that analysis is critical when looking at assessments. It is important to review student performance data in a timely manner. A set calendar can be instrumental in helping to make sure that data is reviewed continuously throughout the school year. Data analysis allows for individualization of instruction and provision of intervention strategies (Gullo, 2013).

Assessment alignment to curriculum scope and sequence and content standards validates the testing purpose (Martone, 2009). Additional reflective review of the alignment between assessments and curriculum helps to assure that the educational components are working to support the common goal. This allows all stakeholders, including state, district, school administration, and classroom teachers, to maintain the same understanding (Martone, 2009). Shanahan (2014) found that standardized tests measure reading comprehension, not skills. The PARCC assessments have a focus on informational text and grade level complexity (Shanahan, 2014).

The discussion on reviewing assessments would not be complete without mentioning data-driven decision-making mandated by the No Child Left Behind Act (Gullo, 2013). First, teachers need to determine what data needs to be collected, how it should be collected and how decisions will be made on student instruction. Once those decisions are made, data can be used to help determine teacher effectiveness and the quality of instructional programming. Data analysis can help determine the most effective instructional strategies being implemented in order to help
improve program quality. The data collected should directly correlate with standards, curriculum goals, and the individual needs of students. Data should be accessible to both administration and teachers and collected from multiple sources (Gullo, 2013).

Black (2014) states assessment literacy amongst teachers has a long-term impact on the classroom instruction (Black, 2014). It is important that teachers are trained to use assessment information appropriately. The specific reading assessment does not matter as much as the use of the assessment information to inform student learning (Black, 2014). Targeted professional development helps all teachers to know and understand the end goal for their students in order to plan their instruction. Teachers have to be able to interpret the assessment data appropriately in order to improve student outcomes (Gullo, 2013).

**Reading Interventions Used for At-Risk Students**

Daly, Chafouleas, and Skinner (2005) states it is important to provide students with a foundation of early literacy skills, i.e. basic skills that are necessary to build upon to develop fluent readers. When students do not have these skills they operate at a deficit that makes it difficult for them to move forward in their reading progress. According to Stinnett (2009) when providing reading interventions, teachers are looking to meet the needs of all students through differentiated instruction at their learning levels. It is important to first effectively identify students and assess them to find out where to place them in their curriculum and for direct instruction for remediation. Students who receive interventions provided by the general education teacher have been found to make significant gains through systematic interventions (Stinnett, 2009). Because reading covers a wide range of skills, it is important to assess students with a diagnostic assessment to have a baseline for instruction (Daly et al. 2005).
It is important to ask the following questions: Why is the student struggling? Is the classroom instruction appropriate? Has the student received adequate exposure to the curriculum? If the student is struggling, has she or he received intensive instruction? When a student is having reading difficulties, it is important to look at the student first within the classroom instructional environment. Look for effective instructional components. It is important for the classroom teacher to be able to assess the student, identify each student's level of instruction, develop an instructional plan to address the student's needs, and continue to monitor the student's growth (Gullo, 2013).

Reading fluency refers to the speed and accuracy with which a student is able to read a passage (Malouf, Reisener, Gadke, Wimbish, and Frankel 2014). For beginning readers if a student is reading fluently or at an appropriate rate they are able to devote their cognitive skills toward the comprehension of text rather than the decoding of words (National Reading Panel, 2000). Daly et al. (2005) found reading fluency and reading comprehension scores typically correlate with one another. A high demand is being placed on increasing reading fluency in order for a student to be successful. According to Daly et al. (2005), reading problems focus on fluency primarily. Few reading problems are comprehension based although there is a high correlation between students who read fluently and students who comprehend what they read. Students who read more fluently are more likely to enjoy reading because it takes less effort. Students who read more fluently get through the text more quickly and have less time to forget the information they have read. Knowing students’ instructional level is important for teacher to know to help them to be successful. Daly et al. (2005) stated the student's curriculum can be used as a starting point for instruction. The goal is to be able to show growth over time and the curriculum may be the best way to do so (Daly et al., 2005).
Duke and Block (2012) found "vocabulary and comprehension, long neglected in primary grades still appear to be neglected" (Duke et al., 2012, p. 55). Keene et al. (2007) focused on students reading fluently but found that students were not comprehending what they read. Keene believes reading comprehension should be strategically taught through explicit strategies good readers use. Included in comprehension strategies are writer's workshop's that focus on strategies that actively engage students in questioning, summarizing, synthesizing, and identifying important ideas. All of these strategies help to improve reading comprehension and reading proficiency. In order for a student to become a proficient reader, they need to spend time reading every day (Keene et al., 2007).

When a student is struggling with their reading, it is important for teachers to provide appropriate interventions. When the instructional level is just right, the student is able to make greater gains from the instructional time. Effective instruction requires responsive feedback from the teacher. When a teacher is gathering data on a student to move through the intervention process, it is necessary to use research-based instructional strategies. Daly et al., (2005) provides the following researched-based interventions. One research-based intervention, ‘Say It and Move It' is a strategy where the teacher says a word and the student moves the letters to fill in boxes to build the word. Sound Bingo is another research-based intervention strategy when learning to build and read Consonant Vowel Consonant (CVC) words. Repeated reading is another research-based strategy where a student reads the same passage multiple times in order to gain reading fluency. Performance feedback is a research-based strategy that charts the student's score and allows students to try and beat their score each time they read the passage. Overall it is important for a student to show measurable growth in their reading and the best way to do that is through continued progress monitoring (Daly et al., 2005).
Reading Interventions for Low-Income Learners

Luther (2012) found that children who are living in poverty have multiple factors that may adversely affect their early developmental years and foundation for early literacy when compared to their middle-class counterparts. Factors include exposure to literature, development of vocabulary, being able to recognize their letters, being in good health, and access to general experiences to build their knowledge bases. Children living in poverty many times have parents with low reading ability. Their homes may lack the necessary tools—books, educational toys, and technology—to develop the foundational educational skills they need to succeed in school. It is necessary for educators to work with the parents, set high expectations for the students and be creative in providing additional resources to build missing skills (Luther, 2012).

In a research article by Herbers, et al (2012), the researchers investigated how homelessness or high residential mobility affected academic achievement. These students were compared to students who qualified for free and reduced lunch and those who were not low-income students. The sample size of this study was 18,011 students. This study found 10% of students were homeless, 55% were urban or on free meals, 4% were on reduced meals, and 31% did not qualify as homeless or on free and reduced meals. Homeless students had a lower attendance rate, were more likely to be African American or identified as Special Education, and had the lowest achievement levels. On average 1st grade students in this study read 59.8 words per minute, but the general population averaged 86.7 words per minute. First grade students who were homeless or considered high mobility read at 40.8 words per minute and the category of children with free and reduced lunches read at 47.7 words per minute. The findings of this study show a correlation that oral reading fluency is impacted by students living in low income, are
high mobility and/or are homeless. This leads to students being at greater risk for lower academic achievement in the upper grades than those students in the general population.

According to Spies (2011), when looking at best practices in current reading trends, it is important to make instruction relevant to all students in today's classroom, not just those who are at risk of reading failure (Spies, 2011). A common strategy for a teacher to use during a reading lesson is to model a thinking behavior, but if teachers were to truly place the learner at the center of the lesson we might model an "I do, we do, you do" structure (Spies, 2011, p.122). Another approach would be to give learners a choice in their reading selection and allow them to have peer discussions within the classroom (Spies, 2011).

**Parent Involvement**

A longitudinal study by Barnard (2003) found that parental involvement in the younger years did make an impact on students’ success in later academic years. The first question researched included investigation in parent involvement at home, parent involvement at school, and teacher ratings of the parents’ involvement at school. The second question in this study was do these measures take into consideration socio-emotional and cognitive abilities of the parents? The student sample size was 1,165 students over a period of fourteen years. The results indicated that there was significant evidence that students whose parents were involved in their schooling had an increase in on-time high school graduation and a decrease in dropping out of high school. This leads to the suggestion that parent involvement in the early grades has a positive effect on students’ education long-term. This study confirms the need for parental involvement in the educational process and agrees with the stated need for parent involvement.

Parents are children's primary role models and have a great impact on their future (Froiland, Peterson, and Davidson, 2012). Parents begin communicating future educational goals
for their children during their formative years and providing them with the belief that they can achieve those goals. Parental goals begin with literacy, the expectation of grades, homework, and the pursuit of higher education (Froiland et al., 2012). Parental involvement in their student's elementary school education has shown to be a key factor to educational success by the time these students reach high school, according to a study completed by Barnard (2004). In this study, Barnard (2004) found that academic success may be more related to the expectations that the parent's place on their children that causes them to be successful in school by a higher standard of supervision at home than actual academic achievement meaning that the parental involvement has more weight than the students actual ability level. Parent involvement is defined by and "includes parenting, learning at home, communicating with the school, volunteering at school, decision making in the school, and collaborating with the community" (Banard, 2004).

According to a study completed by Grolnick (2009), children enter the classroom with a range of self-regulation skills learned from their family's dynamics. For example, children may have the ability to be intrinsically motivated. Parental engagement plays a key role laying the foundation for the child's development, both in terms of social and academic development. School and cognitive development were related to parental involvement in terms of parents giving students additional confidence (Grolnick, 2009).

Day (2013) found a high correlation between parent engagement, improving student attendance, behavior, and achievement. This can have a positive effect on a student's academic competence or negative effect when it comes to behavioral difficulties. Parents who support their students to become autonomous learners do the best job in preparing them for the transition into
Junior high (Grolnick, 2009). Over-involvement in the middle school years, for example, checking of grades can become detrimental (Froiland et. al., 2012). Day (2013) found high-risk parents had common barriers and suggested interventions that should be put in place to engage these parents. Teachers should be supportive of these families, showing respect and awareness of cultural differences in order to build relationships to reaffirm that parents matter. It is important to make sure that all staff is highly trained to overcome these barriers. Typically, parents from high-risk categories do not find schools welcoming or teachers willing to work with them. For the student's sake, it is important to reach out to these families by providing multiple layers of support for engagement and providing as much flexibility as possible. Day (2013) found that realistically it can take as much time to reach out to an at-risk family as providing the academic intervention itself. With school choice, principals take on a greater responsibility of making sure the school is represented well within the community and media. It is up to the principal to utilize the potential of stakeholders within the schools and to include them in shared responsibility for academics and power. In a study completed by Barr and Saltmarsh (2014), parents were asked questions about how they currently viewed the relationships within their children's school and what factors impacted those relationships. Parents communicated the foundation of the school relationship was based on the school leadership to set the tone, vision, and culture for the school (Barr et al., 2014).

**Student Mobility**

School mobility is defined as the movement of a student from one school to another when it does not involve the normal promotion from elementary to middle school or middle school to high school (Fordham, p.13). School mobility naturally has a negative effect on students in many ways and has become an ever increasing problem. In a Washington Monthly article, Hall (2001)
states, “one out of every six U.S. third-graders has attended three or more schools since entering first grade.”

The Thomas B. Fordham Institute completed a study beginning in 2010 conducting statewide research for Ohio students showing the grave effects of student mobility on students of all ages. The situation of student mobility is happening at higher rates than was expected, with inner-city schools seeing an epidemic, but not excluding suburban and urban schools. High mobility typically includes students who are low income, identified as special education, and come from an unstable home environment. These students are already categorized as at-risk and school mobility only makes the risk factors significantly greater (Fordham, 2010). Analysis of the data shows that it is also common for the frequent movers to be from minority populations. “Combine those three characteristics and you have the makings of a lifetime of school failure starting by the end of third grade” (Churchill, Partin, Ryan, 2012).

The Fordham research (2012) found that even students who moved over the summer showed a downward cycle in their assessment scores. Students who moved once had a greater decrease in test scores than those who moved over the summer. Students who moved two or three times in one school year had a noticeable downward trend, a direct correlation between test scores and mobility. A disproportionate number of students who moved were also African-American and low-income, factors that can set students up for failure even prior to the end of third grade (Fordham, p.7).

School mobility not only affects the student who is moving, but also affects the other students in the classroom because teachers must assess and place the new student into the current classroom environment. Many teachers have to take the time to reteach concepts to midyear enrolling students and this takes learning time away from the general population of students
(Fordham, 2012). It should be noted that not all mobility is negative. There is a positive trend for student mobility when a student is able to move from a low-performing school to a higher performing school, allowing them to receive a better education (Fordham, 2012). Even in these situations, the adjustment time period for students can still have a negative effect on them academically, as demonstrated by student test scores. At the time of the Fordham research study from the 2010-11 school year, the online school being studied had an enrollment of 9,474 students, 55.3% of whom were economically disadvantaged. The stability rate was 50.9%. This gave the online school a B rating and ranked them in a positive second place position among other E-charter schools in the state (Fordham, 2012).

**Instructional Coaching**

In a research article by Marsh, McCombs, and Martorell (2010), a mixed method study that included a sample size of a statewide reading coach program reviewed the support instructional coaches were able to give teachers. The findings of the study concluded that the majority of coaches supported teachers in the area of data review, which has a significant impact on student achievement. These results agree with the online model presented where teachers have lead teachers and teacher-based teams to support them in the review of data to improve instruction and academic results.

Willows (2002) found the idea of instructional coaching is to provide teachers with training that is specific to their needs so they can effectively implement instruction. The American Federation of Teachers states that "teaching reading is rocket science" (Willows, 2002). Willows (2002) goes on to say that well-trained literacy coaches can make a difference in preparing teachers to implement effective instructional practices. Instructional coaches typically serve in support roles where they do not evaluate teachers but provide them with feedback and
ways to improve instruction within the classroom where they work. Typically, coaching happens one-on-one with the classroom teacher on a consistent basis. This allows teachers and coaches to spend time discussing, reflecting, applying, observing, providing, and receiving feedback. It has also been found that these newly learned skills tend to be applied more frequently in the classroom after a teacher has received instructional coaching (Marsh, McCombs, and Martorell, 2010).

With the classroom focus on data-driven instruction, it is helpful to have instructional coaches supporting teachers in utilizing data to implement instructional strategies to meet the identified needs of their students (Marsh et al., 2010). This moves professional development from hypothetical situations to real-life implementation within the classroom. Instructional coaches provide teachers time to reflect on instructional practices and also receive feedback from what they observe in order to continue improving teaching. Marsh et al. (2010) found that teachers who worked with instructional coaches were more likely to implement new teaching strategies and maintain those strategies even after they no longer received coaching.

It is important for teachers to be trained to use assessment information appropriately (Black, 2014). Instructional coaches are able to take a look at the data on an individual basis and support teachers to understand data-driven decision-making in order to improve student outcomes. First, teachers must determine what data needs to be collected, how it should be collected and how decisions will be made. Once those decisions are made, data can be used to help determine teacher effectiveness and the quality of instructional planning. Data analysis can help determine the most effective instructional strategies being implemented in order to help improve program quality (Gullo, 2013).
Schildkamp and Kuiper (2010) states classrooms are forever changing and data provides teachers the information needed to appropriately adjust instruction. It is important to provide teachers with professional development to learn how to appropriately use and interpret the data, rather than just going off of their intuition. Teachers use data for many reasons, including instructional grouping of students and moving students within groups mid-year; supporting their conversations with parents, students, and other teachers; and driving professional development. School leaders also use data to plan and set school goals. Data can be used as a motivational tool. It is important that the school leader promotes data use amongst the staff by providing learning opportunities and time for teacher collaboration. During this collaboration time, the vision can be shared and learning can take place (Schildkamp et al., 2010).

**Summary**

In summary, it is important to understand that all the areas of the literature review play an integral part in teaching a child to read whether online or in a traditional brick and mortar setting, although an online setting can create challenges of its own. An educator needs to understand how assessment is used to guide instruction, the crucial importance of parent involvement at a very young age, the impact of mobility on student learning, how to implement reading interventions, and the impact of reading interventions for students who are at-risk academically and socio-economically. Instructional coaching is an important tool to impact educational performance as it helps teachers use assessment data to improve their teaching practices.
CHAPTER III. METHODOLOGY

The overall purpose of this study was to review the academic growth in primary-age students in reading in an online school. Specifically addressed are the following: does a student who enrolls in an online school midyear typically score below their online peers? Is there a significant impact of parent, guardian, or adult engagement in online instruction on the success of students at the primary level in the area of phonics and literacy as compared to students of non-engaged parent(s), guardian(s), or adult(s)? Synchronous online lesson attendance is one area that will be reviewed to look for impacts on student academic growth. This chapter will include a detailed description of the research design for this study, specifically the use of the End-of-Year-Synopsis, the number of students who participated in the study, student demographic information, all data sources utilized for the study, the data collection procedures, research questions, data analysis, and assumptions made in order to complete this study.

Research Questions

Overall, this study examines the academic growth in reading in primary-age students enrolled in an online school as they relate to parent/learning coach involvement and student mobility/late entry enrollment into the online school. Specifically, the research questions that will guide this study include:

1. What factors determine success in online instruction for primary age students: attendance at live online lessons that utilizes research-based reading interventions, student and learning coach engagement levels, and/or online school progress?

2. Does the time enrolled in an online school have a positive impact on the reading diagnostic assessment scores of primary age students showing a difference between students who enroll midyear and those who enroll at the beginning of the school year?
The hypothesis for research question one states: if online primary age students attend live online instruction, students and learning coaches engage, and students complete the online school progress, then students will be successful in the online school as defined by reading at grade level or higher. The hypothesis for research question two states: if online, primary age students enroll at the beginning of the school year, then students will be successful in the online school as defined by reading at grade level or higher. The dependent variable for research question one is success in the online school as defined by reading at grade level or higher by the end of the school year. The independent variable for research question one has three components including live online lesson attendance, student and learning coach engagement levels, and online school progress. The dependent variable for research question two is success in the online school as defined by reading at grade level or higher by the end of the school year. The independent variable for research question two is the time enrolled in school.

**Research Design**

The researcher set out to discover the effectiveness of an online educational environment on primary students’ academic growth in reading as it relates to two factors, parent/learning coach involvement and student mobility/late entry into the online school. The researcher will use data from the school’s End-of-Year-Synopsis an internal instrument created and developed by the school’s K-2 leadership team made up of the K-2 principal and lead teachers. This End-of-Year-Synopsis is housed on the school’s Share Point server to place all student information in one location so that it can be pulled into a spreadsheet format or merged into an individual student synopsis report to be placed with internal student notes. The homeroom teachers completed the End-of Year-Synopsis at the end of the school year based on the data that had been gathered from the beginning to the end of the school year. This study is a quantitative study.
that will gather the student assessment data and allow the researcher to look for trends in the data as they relate to the research questions.

**Participants**

The participants of this study attended a K-12th grade, state-wide online public charter school that has been accredited by AdvancED, an accreditation and school improvement association since 2009. The participants in this study were the K-2nd grade students enrolled for the 2014-15 school year and/or 2015-16 school year. The school population included 2,091 K-2nd grade students that completed the 2014-15 school year: 716 kindergarten, 666 first graders, and 709 second graders. There were 1,615 K-2nd grade students that completed the 2015-16 school year: 570 kindergarten, 508 first graders, and 536 second graders. This study will review those students’ data specifically, including assessment data, engagement level, and live online lesson attendance. Of the 2,091 students enrolled during the 2014-15 school year and the 1,615 students enrolled during the 2015-16 school year that were included on the End-of Year-Synopsis, 369 students enrolled midyear for the 2014-15 school year and 264 students enrolled midyear for the 2015-16 school year. A midyear enrollee is determined as those students who enroll after the Ohio Department of Education’s October count week, the first full week in October. All students were diagnostically assessed within 30 days of enrollment.

**Data Collection Procedures**

Permission to conduct this study was obtained by the Senior Head of School, which is comparable to the role of superintendent. The data for this study was collected as part of the normal end-of-school-year data collection cycle by homeroom teachers for school administration purposes. The End-of Year-Synopsis is also used to inform the homeroom teachers of the status of all re-enrolling students.
The End of the Year Synopsis is compiled at the end of each school year upon completion of the Spring AIMSweb Benchmarking period and is completed in an end-of-year learning coach conference, which is similar to a brick and mortar school’s parent-teacher conference.

- The 2014-15 school year and End-of-Year-Synopsis was compiled between May 4th and June 12th, 2015.
- The 2015-16 school year End-of-Year-Synopsis was compiled between May 2nd and June 10th, 2016.
- The End-of-Year-Synopsis was posted on a secure Share Point server to be completed by the homeroom teacher with additional input from supporting teachers and staff, such as intervention specialists and instructional support staff, if applicable.

- The structure of basic information such as student identification number, first and last name, grade, birth date, eligibility for retention based on birthdate, previous retentions status, school enrollment date, 504 plan, special education status, engagement level, AIMSweb scores, progress monitoring data was uploaded from various spreadsheets and databases automatically to avoid any human data entry errors.
- The individual student scenario includes additional information, like interventions provided and live online lesson attendance, and was completed individually by the homeroom teacher.
- Teachers completed the End-of-Year-Synopsis on Share Point in spreadsheet format and then were able to merge the information into individual student synopsis documents for each student, a process that provides consistency across teachers and grade levels K-2nd.
In order to track student engagement levels, the online school’s teachers utilized the Student Engagement Rubric to assign engagement levels to students enrolled (see Appendix E for Student Engagement Rubric). The students’ engagement level is housed within the online school’s teacher note section and is added to the End-of-Year-Synopsis. The rubric’s indicators of engagement include: student (or learning coach) maintains progress in core subjects, student (or learning coach) maintains attendance, student (or learning coach) turns in assignments regularly, student participates in live online lessons, student and learning coach participates in scheduled conferences, and the learning coach reads and responds to internal school e-mail. The homeroom teachers utilize the student engagement rubric to rank the student and/or learning coach with a score of high engaged, average engaged, and low engaged. This score is housed within the online school database and can be pulled for data use at any time.

Data Analysis

For the quantitative analysis of the study the data collected in the End-of-Year-Synopsis from the K-2nd grades of the 2014-15 and 2015-16 school years of an online school will be used. This End-of-Year-Synopsis is housed on the School Share Point server. T-tests will be used to compare the assessment results between the two student groups, those whose reading is on-track and those whose reading is off-track. For research question one, three t-tests will be conducted within a Microsoft Excel spreadsheet to compare the on-track and off-track student scores in terms of live online lessons attendance, learning coach engagement level and online school progress reported through lessons marked completed on the online school. For research question two, a t-test will be conducted within a Microsoft Excel spreadsheet to compare the on-track and off-track student scores to compare the reading achievement of students who enroll at the
beginning of school year to those students who enroll midyear, the first full week of October or after.

Table 3.1

*Tests Used*

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Data Source</th>
<th>Dependent Variable</th>
<th>Independent Variable</th>
<th>Test Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>End-of-Year-Synopsis</td>
<td>Success in Online School defined by reading at grade level or higher</td>
<td>Live Online Lesson Attendance</td>
<td>T-test</td>
</tr>
<tr>
<td>1</td>
<td>End-of-Year-Synopsis</td>
<td>Success in Online School defined by reading at grade level or higher</td>
<td>Student and learning coach engagement levels</td>
<td>T-test</td>
</tr>
<tr>
<td>1</td>
<td>End-of-Year-Synopsis</td>
<td>Success in Online School defined by reading at grade level or higher</td>
<td>Online school progress</td>
<td>T-test</td>
</tr>
</tbody>
</table>
For instructional purposes student groups will be divided by grade level. Live online lesson attendance will be compared to see if attendance had an impact on the individual student’s reading growth for those children reading below target and well below target. Students will receive minimally one research-based reading intervention every time they attend a live online lesson. The same student assessment data will be reviewed for those students who enrolled mid-year and compared to those students who enrolled at the beginning of the school year.

The kindergarten AIMSweb Benchmarking probes assess students in the areas of letter names, letter sounds, and nonsense words. The first grade probes assess students in the areas of letter names, letter sounds, nonsense words and words read per minute. The second grade probe assesses students on words read per minute. The AIMSweb progress monitoring tool will also be utilized to set individual student goals and provide weekly student assessment to monitor those goals.

**Assumptions**

The following assumptions were made for this study:
• It is assumed that the K-2\textsuperscript{nd} grade teaching team implemented the instructional model as set out by the K-2\textsuperscript{nd} grade leadership team with fidelity utilizing all instructional components, including appropriate assessments, placement of students in small groups for teaching, and providing appropriate interventions for students working below grade level.

• It is assumed that learning coaches, parents or guardians, and students are motivated to engage in live online lessons, communicate with their teacher, and complete the curriculum offered through the online school.

• It is assumed that learning coaches, parents or guardians, and students will be honest in the completion of the online AIMSweb Benchmark assessments and progress monitoring in order for teachers to accurately assess the students’ academic growth and provide necessary interventions.
CHAPTER IV. RESULTS

This dissertation is a research study concerning primary students’ success in learning how to read in an online school environment. The factors influencing that success include live online lesson attendance, learning coach engagement, online school progress, and the amount of time enrolled in the school. Online education is a data-rich model of instruction. In this research study, multiple data points were collected as an integral part of the instructional practices of the school year.

The research questions were addressed through four t-tests over two school years to compare the assessment results between the two student groups: those students who were reading on-track and those students who were reading off-track by the end of the school year. Students were assessed using AIMSweb, an outcome-based measurement, universal screener and progress monitoring tool that assesses foundational skills in both reading and math. The end-of-the-year on-track scores were predetermined by AIMSweb. The baseline on-track score for kindergarten students was to read 28 nonsense words per minute. The baseline on-track score for first grade students was to read 40 words per minute from a first grade reading passage. The baseline on-track score for second grade students was to read 81 words per minute from a second grade reading passage.

For research question one, three t-tests were conducted within a Microsoft Excel spreadsheet to compare the on-track and off-track student scores in terms of live online lesson attendance as tracked by the teacher, learning coach engagement level determined by the teacher using a rubric, and online school progress reported through lessons marked complete on the online school. All data was transferred to a numerical value in order to conduct the t-tests. For research question two, a t-test was conducted within a Microsoft Excel spreadsheet to compare
the reading achievement of students who were enrolled at the beginning of the school year to those students who enrolled midyear, the first full week of October or after. All data was transferred to a numerical value in order to conduct the t-tests.

**Characteristics of the Sample**

The participants of this study attended a K-12th grade, state-wide online public charter school. The school has been accredited by AdvancED, an accreditation and school improvement association since 2009. The participants in this study were the K-2nd grade students enrolled for the 2014-15 school year and/or 2015-16 school year. There were 2,091 K-2nd grade students that completed the 2014-15 school year: 716 kindergarten, 666 first graders, and 709 second graders. Out of the total number of students enrolled during the 2014-15 school year, 462 K-2nd grade students scored off-track on their Fall AIMSweb Benchmark Assessment and were enrolled for the entire school year to complete the Spring AIMSweb Benchmark Assessment. There were 1,615 K-2nd grade students that completed the 2015-16 school year: 570 kindergarten, 508 first graders, and 536 second graders. Out of the total number of students enrolled during the 2015-16 school year, 347 K-2nd grade students scored off-track on their Fall AIMSweb Benchmark Assessment and were enrolled for the entire school year to complete the Spring AIMSweb Benchmark Assessment.

This study reviewed those students’ data specifically, including assessment data, engagement level, and live online attendance. Of the 2,091 students enrolled during the 2014-15 school year and the 1,615 students enrolled during the 2015-16 school year that were included in the End-of-Year-Synopsis, 369 students enrolled midyear for the 2014-15 school year and 264 students enrolled midyear for the 2015-16 school year. A midyear enrollee is determined as those students who enroll after the Ohio Department of Education’s October count week, the first full
week in October. All students were diagnostically assessed within 30 days of enrollment. The students’ grade, birthday, previous retentions status, school enrollment date, 504 plan, special education status, engagement level, AIMSweb scores, and interventions provided were all taken into consideration to review the data.

Although the research data did not break down students by ethnicity, free and reduced lunch, and special education, this data was included to show the demographics of the student population. Upon enrollment in the school, the parents of the students identified their students’ ethnicity as the following for the 2014-15 school year: 0.46% American Indian or Alaskan Native, 1.25% Multi-racial, 1.50% Asian or Pacific Islander, 3.07% Hispanic, 11.49% Black, non-Hispanic, and 82.24% White. Nine point three seven percent of the students were identified as having special needs and have individualized education plans. Within the 2014-15 school year student population, 54% was identified as eligible for free and reduced lunch and 13% as unknown. For the 2015-16 school year, the parents of the students identified their students’ ethnicity as the following: .11% Native Hawaiian or Pacific Islander, .35% American Indian or Alaskan Native, .97% Multi-Racial, 1.43% Asian, 3.89% Hispanic, 12.02% Black, non-Hispanic, 81.22% White. Nine point seven two percent of the students were identified as having special needs and have individualized education plans. Within the 2015-16 school year student population, 37.46% was identified as eligible for free and reduced lunch with 17.06% unknown.

**Instrument Validity and Reliability**

Success in the online school was defined by reading at grade level or higher by using the AIMSweb online assessment tool used for benchmarking and progress monitoring students in grades kindergarten through second grade. AIMSweb is a national universal screener. AIMSweb reading passages have been evaluated for Lexile levels and readability. Passage correlations for
grade placement average .95 for screening passages and .88 for progress-monitoring passages. Sample student demographic characteristics were developed to closely match the national population according to the National Center for Educational Statistics and the U.S. Department of Education. According to AIMSweb the reliability of students’ scores should remain the same within their grade level probes at a similar time whether a different probe is being administered or a different person is administering the assessment (Education, 2012).

**Research Question 1**

What factors determine success in online instruction for primary age students: attendance at live online lessons that utilizes research-based reading interventions, student and learning coach engagement levels, and/or online school progress?

**Live Online Instruction 2014-15 T-Test**

The live online instruction 2014-15 school year analysis was conducted using a t-test completed in Microsoft Excel. All data was transferred to a numerical value in order to conduct the t-test. Data for live online lesson attendance was provided by teachers according to student attendance as regularly attending (3-5 times per week) with a value of 5, somewhat regularly attended (1-2 times per week) with a value of 4, occasionally attended with a value of 3, rarely attended with a value of 2, or never attended with a value of 1. Students who scored well above or above target on their AIMSweb assessment are not required to attend online instruction and were removed from the data.

It was observed that on average students who were on-track had a value of 4.073 for weekly live online lesson attendance, meaning that they somewhat regularly attended. Students that were off-track had an average value of 3.643 for weekly live online lesson attendance,
meaning that they were between occasionally attending and somewhat regularly attending live online lessons. Therefore it was observed that on-track students attended live online lessons on average by a higher value of 0.43 than students who were off-track. The absolute value of the t-statistic is 7.325 and the p-value for the two-tail test is $4.067 \times 10^{-13}$, which is below the 0.05 level of significance. This allows us to reject the null hypothesis and conclude that there is a statistically significant difference between on-and off-track students in terms of live online lesson attendance.

Table 4.1

**Live Online Instruction 2014-15 T-Test**

<table>
<thead>
<tr>
<th></th>
<th>Off Track</th>
<th>On Track</th>
</tr>
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<tbody>
<tr>
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<tr>
<td>Observations</td>
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<td>t Stat</td>
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<tr>
<td>P(T&lt;=t) two-tail</td>
<td></td>
<td>$4.067 \times 10^{-13}$</td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td></td>
<td>1.962</td>
</tr>
</tbody>
</table>

**Engagement 2014-15 T-Test**

The engagement 2014-15 school year analysis was conducted using a t-test completed in Microsoft Excel. All data was transferred to a numerical value in order to conduct the t-test. For the learning coach engagement, there were three levels: high, average, and low engagement that were given corresponding values of 3, 2, and 1.

It was observed that on average students who were on-track had a value of 2.106 for learning coach engagement, meaning that they had an average engagement level. Students that were off-track had an average value of 1.8 for learning coach engagement level, meaning that
they averaged between a low learning coach engagement level to average learning coach engagement level. Therefore it was observed that on-track students had a higher level of learning coach engagement value of 0.307 than students who were off-track. The absolute value of the t-statistic is 10.360 and the p-value for the two-tail test is $1.515 \times 10^{-24}$, which is below the 0.05 level of significance. This allows us to reject the null hypothesis and conclude that there is a statistically significant difference between on-and off-track students in terms of learning coach engagement.

Table 4.2

**Engagement 2014-15 T-Test**

<table>
<thead>
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<th></th>
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<th>On Track</th>
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<tbody>
<tr>
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<tr>
<td>P(T&lt;=t) two-tail</td>
<td>1.515 x 10^{-24}</td>
<td>1.961</td>
</tr>
</tbody>
</table>

**Progress Concerns 2014-15 T-Test**

The progress concerns 2014-15 school year analysis was conducted using a t-test completed in Microsoft Excel. All data was transferred to a numerical value in order to conduct the t-test. The online school progress was given a numerical value of 1 for students with progress concerns and 0 for students with no progress concerns.

It was observed that on average students who were on-track had a value of 0.125 for
progress concerns, or lessons being completed consistently on the online school. Students that were off-track had an average value of 0.426 for progress concerns. Therefore it was observed that off-track students have a higher value of 0.301 for students who have progress concerns on the online school. The absolute value of the t-statistic was 15.446 and the p-value for the two-tail test was \(5.772 \times 10^{-51}\), which was below the 0.05 level of significance. This allows us to reject the null hypothesis and conclude that there is a statistically significant difference between on-and off-track students in terms of progress concerns.

Table 4.3

*Progress Concerns 2014-15 T-Test*

<table>
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<td>Observations</td>
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<tr>
<td>t Stat</td>
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<tr>
<td>(P(T\leq t)) two-tail</td>
<td>(5.772 \times 10^{-51})</td>
<td></td>
</tr>
<tr>
<td>(t) Critical two-tail</td>
<td>1.961</td>
<td></td>
</tr>
</tbody>
</table>

*Live Online Instruction 2015-16 T-Test*

The live online instruction 2015-16 school year analysis was conducted using a t-test completed in Microsoft Excel. All data was transferred to a numerical value in order to conduct the t-test. Data for live online lesson attendance ranked students by teachers as regularly attending (3-5 times per week) with a value of 5, somewhat regularly attended (1-2 times per week) with a value of 4, occasionally attended with a value of 3, rarely attended with a value of 2, or never attended with a value of 1. Students who scored well above or above target on their
AIMSweb assessment are not required to attend online instruction and were removed from the data.

It was observed that on average students who were on-track had a value of 4.156 for weekly live online lesson attendance, meaning that they somewhat regularly attended class. Students that were off-track had an average value of 3.988 for weekly live online lesson attendance, meaning that they were between occasionally attending class and somewhat regularly attending class. Therefore it was observed that on-track students attended class on average by a higher value of 0.43 than for students who were off-track. The absolute value of the t-statistic is 2.599 and the p-value for the two-tail test is 0.009, which is below the 0.05 level of significance. This allows us to reject the null hypothesis and conclude that there is a statistically significant difference between on-and off-track students in terms of live online lesson attendance.

Table 4.4

*Live Online Instruction 2015-16 T-Test*

<table>
<thead>
<tr>
<th></th>
<th>Off Track</th>
<th>On Track</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
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<td>4.156</td>
</tr>
<tr>
<td>Variance</td>
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<td>0.721</td>
</tr>
<tr>
<td>Observations</td>
<td>340</td>
<td>720</td>
</tr>
<tr>
<td>t Stat</td>
<td>-2.599</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>0.009</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>1.962</td>
<td></td>
</tr>
</tbody>
</table>

*Engagement 2015-16 T-Test*

The engagement 2015-16 school year analysis was conducted using a t-test completed in Microsoft Excel. All data was transferred to a numerical value in order to conduct the t-test. For
the learning coach engagement, there were three levels: high, average, and low engagement that were given corresponding values of 3, 2, and 1.

It was observed that on average students who were on-track had a value of 2.085 for learning coach engagement, meaning that they had an average engagement level. Students that were off-track had an average value of 1.743 for learning coach engagement level, meaning that they averaged between a low engagement level learning coach to average engagement level learning coach. Therefore it was observed that on-track students had a higher level of learning coach engagement value of 0.342 than students who were off track. The absolute value of the t-statistic is 9.563 and the p-value for the two-tail test was 4.216x10^{-21}, which is below the 0.05 level of significance. This allows us to reject the null hypothesis and conclude that there is a statistically significant difference between on-and off-track students in terms of learning coach engagement.

Table 4.5

<table>
<thead>
<tr>
<th></th>
<th>On Track</th>
<th>Off Track</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>2.085</td>
<td>1.743</td>
</tr>
<tr>
<td>Variance</td>
<td>0.328</td>
<td>0.397</td>
</tr>
<tr>
<td>Observations</td>
<td>1239</td>
<td>342</td>
</tr>
<tr>
<td>t Stat</td>
<td>9.563</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>4.216x10^{-21}</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>1.961</td>
<td></td>
</tr>
</tbody>
</table>
**Progress Concerns 2015-16 T-Test**

The progress concerns 2015-16 school year analysis was conducted using a t-test completed in Microsoft Excel. All data was transferred to a numerical value in order to conduct the t-test. The online school progress was given a numerical value of 1 for students with progress concerns and 0 for students with no progress concerns.

It was observed that on average students who were on-track had a value of 0.156 for progress concerns, or lessons being completed consistently on the online school. Students that were off-track had an average value of 0.478 for progress concerns. Therefore it was observed that off-track students have a higher value of 0.322 for students who have progress concerns on the online school. The absolute value of the t-statistic is 13.202 and the p-value for the two-tail test is $8.278 \times 10^{-38}$, which was below the 0.05 level of significance. This allows us to reject the null hypothesis and conclude that there is a statistically significant difference between on-and off-track students in terms of progress concerns.

Table 4.6

*Progress Concerns 2015-16 T-Test*

<table>
<thead>
<tr>
<th></th>
<th>On Track</th>
<th>Off Track</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.156</td>
<td>0.478</td>
</tr>
<tr>
<td>Variance</td>
<td>0.132</td>
<td>0.25</td>
</tr>
<tr>
<td>Observations</td>
<td>1231</td>
<td>337</td>
</tr>
<tr>
<td>t Stat</td>
<td>-13.202</td>
<td></td>
</tr>
<tr>
<td>$P(T&lt;=t)$ two-tail</td>
<td></td>
<td>$8.278 \times 10^{-38}$</td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td></td>
<td>1.961</td>
</tr>
</tbody>
</table>
Research Question 1 Answered

**Live Online Instruction 2014-15 and 2015-16 T-Test**

The live online instruction 2014-15 and 2015-16 t-tests showed a significant difference between students who attended live online instruction who were on-track academically by the end of the school year and those students who did not attend live online instruction and were off-track at the end of the school year. However, while 100% of on-track students attended live online instruction occasionally to regularly, 77% of off-track students also attended live online instruction occasionally to regularly. These students may have other factors influencing their lack of success. Live online lesson attendance included large group, small group, and one-on-one instruction. These results fit with the assumptions made within the research model that when online students attend live online lessons with their online teacher they are more likely to be academically on-track at the end of the school year.

*Figure 4.1 Live Online Instruction 2014-15*
Figure 4.2 Live Online Instruction 2015-16

Engagement 2014-15 and 2015-16 T-Tests

The engagement 2014-15 and 2015-16 t-tests showed a significant percentage of students who are average engaged to high engaged correlates with the students who are on-track academically at the end of the school year where off-track students tend to be average to low engaged by the end of the school year. The engagement was determined by parent communication with the licensed classroom teacher, student participation in live online classroom experiences, student participation in daily completion of the curriculum, and school attendance. The homeroom teacher used a rubric to determine the student’s engagement level. These results fit with the assumptions made within the research model that when online students and parents engage in communication with their classroom teacher, students participate in live online classroom experiences, students participate in the daily completion of the curriculum, and school attendance they are successful in an online school environment.
Progress 2014-15 and 2015-16 T-Tests

The progress 2014-15 and 2015-16 t-tests showed a significant difference between on-track students who showed progress concerns as compared to off-track students who showed progress concerns with 30% more off-track students showing progress concerns than on-track students with progress concerns. In 2014-15, 87% of on-track students had no progress concerns,
while 57% of off-track students had no progress concerns. This demonstrates that these students may have additional factors influencing their lack of success. Progress is referred to lessons being marked on the online school consistently. These results fit with the assumptions made within the research model that when online students make consistent progress on a daily basis in the online school they are successful in an online school environment.

**Figure 4.5 Progress 2014-15**

**Progress 2014-15**

<table>
<thead>
<tr>
<th></th>
<th>Yes, Progress Concern</th>
<th>No Progress Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off Track</td>
<td>n 215 (43%)</td>
<td>n 1325 (87%)</td>
</tr>
<tr>
<td>On Track</td>
<td>n 286 (57%)</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 4.6 Progress 2015-16**

**Progress 2015-16**

<table>
<thead>
<tr>
<th></th>
<th>Yes, Progress Concern</th>
<th>No Progress Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off Track</td>
<td>n 161 (48%)</td>
<td>n 185 (15%)</td>
</tr>
<tr>
<td>On Track</td>
<td>n 176 (52%)</td>
<td>n 1046 (85%)</td>
</tr>
</tbody>
</table>

**Figure 4.6 Progress 2015-16**

<table>
<thead>
<tr>
<th></th>
<th>Yes, Progress Concern</th>
<th>No Progress Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off Track</td>
<td>n 161 (48%)</td>
<td>n 185 (15%)</td>
</tr>
<tr>
<td>On Track</td>
<td>n 176 (52%)</td>
<td>n 1046 (85%)</td>
</tr>
</tbody>
</table>
Research Question 2

Does the time enrolled in an online school have a positive impact on the reading diagnostic assessment scores of primary age students showing a difference between students who enroll midyear and those who enroll at the beginning of the school year?

Time Enrolled 2014-15 School Year T-Test

The time enrolled during the 2014-15 school year analysis was conducted using a t-test completed in Microsoft Excel. All data was transferred to a numerical value in order to conduct the t-tests. Students who were enrolled from the beginning of the school year until the October cut off were given a numerical value of 2. Students who enrolled the month of October or after were given a numerical value of 1.

It was observed that on average the on-track students had a value of 1.889, meaning that more students were enrolled at the beginning of the school year. Students that were off-track had an average value of 1.782 meaning that these students were less likely to be enrolled at the beginning of the school year and more likely to be enrolled midyear. Therefore it was observed that on-track were also enrolled at the beginning of the school year by a higher value of 0.107 than for students who were off-track. The absolute value of the t-statistic was 4.948 and the p-value for the two-tail test was 8.45x10^{-07}, which was below the 0.05 level of significance. This allows us to reject the null hypothesis and conclude that there is a statistically significant difference between on-and off-track students in terms of time enrolled.
Table 4.7

*Time Enrolled 2014-15 School Year T-Test*

<table>
<thead>
<tr>
<th></th>
<th>On Track</th>
<th>Off Track</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1.889</td>
<td>1.782</td>
</tr>
<tr>
<td>Variance</td>
<td>0.098</td>
<td>0.171</td>
</tr>
<tr>
<td>Observations</td>
<td>1004</td>
<td>331</td>
</tr>
<tr>
<td>t Stat</td>
<td>4.948</td>
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</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>8.45x10^{-07}</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>1.962</td>
<td></td>
</tr>
</tbody>
</table>

*Time Enrolled 2015-16 School Year T-Test*

The time enrolled during the 2015-16 school year analysis was conducted using a t-test completed in Microsoft Excel. All data was transferred to a numerical value in order to conduct the t-tests. Students who were enrolled from the beginning of the school year until the October cut off were given a numerical value of 2. Students who enrolled the month of October or after were given a numerical value of 1.

It was observed that on average the on-track students had a value of 1.885, meaning that more students were enrolled at the beginning of the school year. Students that were off-track had an average value of 1.795 meaning that these students were less likely to be enrolled at the beginning of the school year and more likely to be enrolled midyear. Therefore it was observed that on-track students were also enrolled at the beginning of the school year by a higher value of 0.09 than for students who were off-track. The absolute value of the t-statistic is 4.350 and the p-value for the two-tail test is 1.445x10^{-05}, which is below the 0.05 level of significance. This allows us to reject the null hypothesis and conclude that there is a statistically significant difference between on-and off-track students in terms of time enrolled.
Research Question 2 Answered

**Time Enrolled 2014-15 and 2015-16 T Tests**

The time enrolled 2014-15 and 2015-16 t-tests showed a statistically significant difference between on-and off-track students in terms of time enrolled. During 2014-15 the percentage of off-track midyear enrolling students was double that of the students who enrolled at the beginning of the school year. However, both beginning of the year and midyear enrolling students had a high percentage of off-track students which demonstrates the type of population of student that enrolls in an online school. Late enrollment is considered to be, the first week of October through the remaining enrollment season of the school year. There is a learning curve adjusting to an online school. Those students who have a full year to achieve a full grade level of academic growth may have an advantage over those enrolling midyear. These results support the assumptions made within the research model that when online students enroll at the beginning of the school year they are most successful in an online environment.
Summary

In summary, online education at the primary level can result in student success if the student and learning coach take hold of the detailed format of the instructional model, including live online lesson attendance, learning coach engagement, online school progress, and the amount of time enrolled in the school. This research concluded that there is a correlation between
academic growth and the online instructional model being implemented and followed appropriately as laid out by the online curriculum, staff, and administration. However, for some children, progress does not occur. While some of this lack of progress is likely related to the factors studied in this dissertation, there may be additional factors inhibiting student success. Teaching a child, in general, is not a simple task and should be taken very seriously. When the instruction is implemented appropriately, online education can be effective for those that choose this model of education.
CHAPTER V. CONCLUSIONS AND RECOMMENDATIONS

This chapter reviews the research completed within this study, provides a summary of the results as they relate to the previous research found in the literature review, and provides recommendations for future educational teaching practices and research opportunities in the specific area of reading instruction in online education. The first section looks at the study through the lens of the theoretical framework and the methodology used to conduct the quantitative analysis. A summary of the results as they relate to the two research questions follows, along with a correlation to the literature previously reviewed. The second part of this chapter discusses current policy and practices, the research findings and how they may influence future educational practices, and possible recommendations for future research.

Review of the Study

This study examined assessment data from an online school to determine the success of online reading instruction with K-2 students. The focus of the study included the following factors influencing that success: live online lesson attendance, learning coach engagement, online school progress, and the amount of time enrolled in the school. The research results were reviewed to analyze the effectiveness of an online educational model as another option for students outside of the traditional brick and mortar setting. This study applied the theoretical framework of transformational change theory due to the paradigm shift from a brick and mortar to an online educational model. The transformational change was examined specifically as it related to reading instruction, parental involvement, and student enrollment date.

The literature review for this research study included a description of how the teaching team at a virtual school utilizes an extensive reading program implementing research-based interventions and how students were identified as at-risk of failure. The literature review
examined the components of instructional reading practices that establish developmental reading skills in students in grades kindergarten through third grade. It also addressed deficiencies found within the students who were not reaching grade level expectations. The Ohio Department of Education has implemented the Third Grade Reading Guarantee to assure that all students will be reading on grade level by the end of third grade. If students are not reading on grade level by third grade, they typically still struggle academically in their ninth grade year. This pattern can predict if students will graduate from high school (Gullo, 2013). The necessary components of reading practices included in the literature review include best practices in reading and online education, the assessment cycle, reading interventions used for at-risk students, reading interventions for low-income learners, parent involvement, and instructional coaching. Each of these components is necessary for foundational reading instruction in an online environment.

This quantitative study reviewed the students’ attendance in live online lessons whether they attended regularly, somewhat regularly, rarely, occasionally, or never based upon attendance taken during the lesson by the licensed homeroom teacher. This study also reviewed the engagement level of the learning coach who is responsible for the instruction in the home of the online student. The licensed homeroom teacher used a rubric designed by the online school to determine the level of parental engagement. The rubric included the key aspects of parent engagement, including communication with the licensed classroom teacher, student participation in live online classroom experiences, and student participation in daily completion of curriculum and school attendance. This study also tracked the completion of progress by students in terms of lessons being completed in the online school and identified students with progress concerns. The data was reviewed to determine the relationship each area had with students’ academic growth at the end of the school year.
The second component of this quantitative study included a comparison between students who enroll at the beginning of the school year and students who enroll midyear, comparing their assessment results in terms of academic gains. Data was collected and analyzed using T-Tests for each of these areas. The research questions were:

1. What factors determine success in online instruction for primary age students: attendance at live online lessons that utilize research-based reading interventions, student and learning coach engagement levels, and/or online school progress?

2. Does the time enrolled in an online school have a positive impact on the reading diagnostic assessment scores of primary age students, showing a difference between students who enroll midyear and those who enroll at the beginning of the school year?

**Discussion**

The Ohio Department of Education has attempted to respond to the concerns of primary level students (grades K-3) who are struggling to meet the reading fluency and comprehension standards with the Third Grade Reading Guarantee. This legislation focuses on schools identifying students in grades kindergarten through third grade who are scoring below grade level in reading. Every K-3rd grade student must be assessed by September 30th or within 30 days of enrollment to determine their reading level. If a student scores below target, the student is placed on a Reading Improvement and Monitoring Plan (RIMP), created through input from the teacher and parent. The RIMP includes the student’s areas of reading deficiency and the intervention plan to be implemented to get the student back on track with their reading by the end of third grade (Ohio Department of Education, 2014).
Research Question 1

Live Online Instruction

The findings of this study indicated a significant percentage of students who attended live online lessons were on-track academically by the end of the school year in comparison to those students who did not attend live online lessons and were off-track at the end of the school year. Live online lesson attendance included large-group, small-group, and one-on-one instruction. A student’s attendance in live online lessons allowed for interaction with the licensed homeroom teacher to provide instruction utilizing research-based reading interventions.

For the 2014-15 school year the on-track students had 38% of the student population regularly attended live online lessons, 30% somewhat regularly attended, and 32% occasionally attended. The off-track students for the 2014-15 school year had 36% of the student population regularly attend live online lessons, 27% somewhat regularly attend, 14% occasionally attend, 13% rarely, and 10% never attended. This was the equivalent of 37% of off-track students never to only occasionally attending live online instruction. During the 2015-16 school year the on-track students had 45% of the student population regularly attend live online lessons, 26% somewhat regularly attend, and 29% occasionally attend. The off-track students for the 2015-16 school year had 46% of the student population regularly attend live online lessons, 33% somewhat regularly attend, 9% occasionally attend, 5% rarely attend, and 7% never attended. This is the equivalent of 21% of off-track students never attending to only occasionally attending live instruction which is a decrease of 12% from the previous school year. The increase in live online instruction participation seen from the 2014-15 school year to the 2015-16 school year would be due to higher accountability levels set within the school.
The literature review identified best practices in reading instruction and found a correlation with these best practices in reading instruction and the reading instruction being implemented within live online lessons and the online school. The research of Daly, Chafouleas, and Skinner (2005) states that it is important to provide students with a foundation of early literacy skills, i.e. basic skills that are necessary to build upon to develop fluent readers. When students do not have these skills they operate at a deficit that makes it difficult for them to move forward in their reading progress. According to Stinnett (2009), when providing reading interventions, teachers are looking to meet the needs of all students through differentiated instruction at their learning levels. It is important to first effectively identify students and assess them to find out where to place them in their curriculum and for direct instruction for remediation. Students who receive interventions provided by the general education teacher have been found to make significant gains through systematic interventions (Stinnett, 2009). Because reading covers a wide range of skills, it is important to assess students with a diagnostic assessment to have a baseline for instruction (Daly et al., 2005).

According to Spies (2011), when looking at best practices in current reading trends, it is important to make instruction relevant to all students in today's classroom, not just those who are at risk of reading failure (Spies, 2011). A common strategy for a teacher to use during a reading lesson is to model a thinking behavior, but if teachers are to truly place the learner at the center of the lesson they might model an "I do, we do, you do" structure (Spies, 2011, p.122). Another strategy is to give learners a choice in their reading selection and allow them to have peer discussions within the classroom (Spies, 2011). Within live online lessons the online teachers are implementing specific reading strategies such as these in order to achieve the best outcomes from their instruction. This research study focused on live online lesson attendance specifically to see
if a higher percentage of students who attended live instruction utilizing research-based reading interventions met their end of year reading goal. Although not all students met their end of year reading goal, a higher percentage of students who met their reading goal attended the live online lessons than those students who did not attend.

**Student and Learning Coach Engagement Levels**

The results of this study also showed a significant percentage of students who are average-engaged to high-engaged correlates with the students who are on-track academically at the end of the school year where off-track students tend to be average to low engaged by the end of the school year. The engagement was determined by parent communication with the licensed classroom teacher, student participation in live online classroom experiences, student participation in daily completion of the curriculum, and school attendance. The homeroom teacher used a rubric to determine the students’ engagement level.

For the 2014-15 school year the on-track students had 21% of the student population in the high engagement range, 67% in the average engagement range, and 11% in the low engagement range. The off-track students for the 2014-15 school year had 11% of the student population in the high engagement range, 59% in the average engagement range, and 31% in the low engagement range. The low engagement students had 20% more off-track students than on-track students. Overall the average to low engagement range made up 90% of the off-track students in comparison 88% of the on-track students were made up of average to high engaged students. During the 2015-16 school year 21% of the on-track student population was in the high engagement range, 67% was in the average engagement range, and 13% was in the low engagement range while 10% of the off-track student population was in the high engagement range, 54% was in the average engagement range, and 36% was in the low engagement range.
The low engagement students had 23% more off-track students. Overall the average to low engagement range made up 90% of the off-track students in comparison 88% of the on-track students were made up of average to high engaged students. These results fit with the assumptions made within the research model that when online students and parents engage in communication with their classroom teacher, students participate in live online classroom experiences, students participate in the daily completion of the curriculum, and students attend school, they can be successful in an online school environment. Since these T-Tests are not casual tests, it is possible that the relationship could go in the opposite direction, i.e. students who are off-track tend to engage less. For example: an off-track student may engage in all aspects of the online program and make one year’s academic growth, but they are still considered off-track for their grade level due to starting out so far behind.

The rubric used by the homeroom teacher to define engagement levels specifically looked at parent communication with the licensed classroom teacher, student participation in live online classroom experiences, student participation in daily completion of the curriculum, and school attendance which have been identified as important factors in student achievement. These factors correlate with what the Ohio Department of Education identifies on its website as the important role of the family and teacher collaborating together for student academic success. “The State Board of Education of Ohio recognizes parents and families as children’s first and most important teachers. When parents enroll their children in school, from preschool through high school, the responsibility of education and care is shared with the school and the community. Partnerships among families, schools, and communities that are child-centered and family-strengthening can engage, guide and motivate students to be productive citizens in a global society” (Ohio Department of Education, 2013). In online education, the role of the parent,
guardian, or adult is even that much more important due to the fact that the student is working from a remote location and must be guided by an adult to participate fully in the online program.

A study completed by Barnard (2003) found that parental involvement in the younger years made an impact on students’ success in later academic years. Barnard investigated parent involvement at home, parent involvement at school, and teacher ratings of the parents’ involvement at school. The results indicated that there was significant evidence that students whose parents were involved in their schooling had an increase in on-time high school graduation and a decrease in dropping out of high school. This leads to the suggestion that parent involvement in the early grades has a positive effect on students’ education long-term. Although Barnard’s study was completed within the traditional brick and mortar model of education and looked specifically at “parenting, learning at home, communicating with the school, volunteering at school, decision making in the school, and collaborating with the community” (Barnard, 2003). There is a need for parent involvement whether a student is enrolled in a brick and mortar or online school and, although the model of instruction is very different, the definitions for parental involvement overlap one another. This study confirms the need for parental involvement in the educational process and agrees with the stated need for parent involvement.

The findings of an earlier study completed by Day (2013) found a high correlation between parent engagement, improving student attendance, behavior, and achievement. This can have a positive effect on a student's academic competence or negative effect when it comes to behavioral difficulties. Parents who teach their students to become autonomous learners do the best job to prepare them for the transition to the upper grade levels (Grolnick, 2009). One of the primary keys to success in the online environment is parent engagement. Lips found that engagement consisted of “regular communication between teachers and students by phone, e-
mail, instant messaging, and video conference” (Lips, 2010). When considering online education at the primary level, parental engagement has an even greater weight on the child’s success because the parent or learning coach is involved on a daily basis making sure that the student participates in the online curriculum as it is structured.

**Online School Progress**

The findings of this study showed a significant percentage of on-track students who showed no progress concerns compared to students who showed progress concerns as being not on-track. Progress is identified by lessons being consistently marked on the online school. The results for the 2014-15 school year showed 87% of on-track students had no progress concerns and 13% of on-track students had progress concerns while 57% of off-track students had no progress concerns and 43% of off-track students had progress concerns. The off-track students in comparison had a higher percentage of progress concerns by 30% than the on-track students. The 2015-16 school year had similar results with 85% of on-track students having no progress concerns and 15% of on-track students having progress concerns while 52% of off-track students had no progress concerns and 48% of off-track students had progress concerns. The off-track students had a higher percentage of progress concerns by 33% than the on-track students. These results fit with the assumptions made within the research model that when online students make consistent progress on a daily basis in the online school, they are successful in an online school environment.

This study did not specifically address the qualitative nature of a students’ success rate as determined by their self-regulation, but that could possibly be a future study. This study did look at consistency of progress completion, which is a factor of self-regulation. When a student is working in a virtual instructional model, there is a need for self-regulation since the student is
not sitting in a classroom with a teacher overseeing his/her daily work. Self-regulation is a learned skill and within the virtual environment should be taught by the parent or learning coach overseeing the daily lesson or progress completion. Self-regulation can come in the form of self-motivation when a student learns to understand the benefits of completing their work consistently.

Fundamentally, parents are children's primary role models and have a great impact on their future (Froiland, Peterson, and Davidson, 2012). Parents begin communicating future educational goals for their children during their formative years and providing them with the belief that they can achieve those goals. Parental goals begin with literacy, the expectation of grades, homework, and the pursuit of higher education (Froiland et al., 2012). Parental involvement in their student's elementary school education has shown to be a key factor to educational success by the time these students reach high school, according to a study completed by Barnard (2004). In this study, Barnard (2004) found that academic success may be more related to the expectations that the parents place on their children. These cause them to be successful in school more because of a higher standard of supervision at home than because of actual academic ability. This suggests that the parental involvement has more weight than the student’s actual ability level. Parent involvement is defined by and "includes parenting, learning at home, communicating with the school, volunteering at school, decision making in the school, and collaborating with the community" (Banard, 2004). This directly correlates with the online educational structure where the parent is typically the learning coach making the daily decisions within the home for lesson completion and providing the student with the motivation and structure to complete their daily schoolwork.
According to a study completed by Grolnick (2009), children enter the classroom with a range of self-regulation skills learned from their family's dynamics. For example, children may have the ability to be intrinsically motivated. Parental engagement plays a key role laying the foundation for the child's development, both in terms of social and academic development. School and cognitive development were related to parental involvement in terms of parents giving students additional confidence (Grolnick, 2009). It is evident when following the instructional plan the student can be highly successful. Even if the student is starting out with an academic deficit from a previous learning environment, the one-on-one instruction taking place within the home and the differentiated curriculum model of the student working at their own instructional pace allows for mastery of the online curriculum (Lips, 2010).

Research Question 2

Time Enrolled in an Online School

There are many reasons why a student enrolls in a virtual environment midyear. It could be due to medical reasons, behavioral reasons, or even bullying has become a common reason. The bottom line is that the student’s local brick and mortar school was not meeting a need that the student had whether it was academic, physical, social, or emotional, and the parent or legal guardian choose to make a change even though it was in the middle of the school year.

The findings of this study showed a significant percentage of students who enroll at the beginning of the school year perform better academically than their grade level peers who enroll midyear, the first week of October through the remaining enrollment season of the school year. There is a big learning curve when enrolling in an online school and it is best to have a full year to be able to achieve a full grade level of academic growth rather than enrolling midyear to try and adjust to online education along with meeting the academic end-of-year goals. These results
fit with the assumptions made within the research model that when online students enroll at the beginning of the school year they are most successful in an online environment.

The results for the 2014-15 school year for on-track students showed 89% of students enrolling at the beginning of the school year were on track and 11% of midyear enrollees were on track. For the off-track students 78% enrolled at the beginning of the school year and 22% enrolled midyear which is double the number of students at the beginning of the school year. The 2015-16 school year had similar results with on-track students showing 80% of students enrolling at the beginning of the school year were on track and 20% of midyear enrollees were on track. For the off-track students 67% of students enrolled at the beginning of the school year and 33% were midyear enrollees. This is 13% higher than students enrolling at the beginning of the school year.

The results of the final research question were consistent with the review of the literature on school mobility. The research found school mobility to have a negative effect on students in many ways, becoming an ever-increasing problem. In a Washington Monthly article, Hall (2001) states, “one out of every six U.S. third-graders has attended three or more schools since entering first grade.”

The Thomas B. Fordham Institute completed a study beginning in 2010 conducting statewide research for Ohio students showing the grave effects of student mobility on students of all ages. The situation of student mobility is happening at higher rates than was expected, with inner-city schools seeing an epidemic, but not excluding suburban and urban schools. High mobility typically includes students who are low income, identified as special education, and come from an unstable home environment. These students are already categorized as at-risk and school mobility only makes the risk factors significantly greater (Fordham, 2010). Analysis of
the data shows that it is also common for the frequent movers to be from minority populations.

“Combine those three characteristics and you have the makings of a lifetime of school failure starting by the end of third grade” (Churchill, Partin, Ryan, 2012). The results of the Fordham study are consistent with what is being seen in the online educational environment where an at-risk, transient student population is enrolling at all points during the school year.

**Conclusion**

The research supports the online educational model as an additional option for students even at the primary level, grades K-2. The research found that a higher percentage of students are more successful when they attend live online instruction that utilizes research-based reading interventions, students and learning coaches have a higher level of engagement, students make consistent progress in the online school, and students enroll at the beginning of the school year rather than midyear. Even if the student is starting out with an academic deficit from a previous learning environment the one-on-one instruction taking place within the home, the differentiated curriculum model of the student working at their own instructional pace mastering the curriculum, and the small group instruction of the online classroom environment can create a winning learning environment for those students who are initially struggling (Lips, 2010).

It is important to learn how to best serve the educational needs and learning styles of all students. Online education serves a population of students with health and behavioral needs that traditional brick and mortar schools may not be able to adequately serve. Online education offers students of all ages an opportunity to work in a familiar environment without the distractions of a typical brick and mortar classroom. Students who have behavioral, health-related issues or exceptional learning needs may find a more optimal learning environment for their specific needs through completing their school work in an online setting.
Furthermore, Huet et al (2008) suggest that many students with different learning styles and learning needs can perform well in an online environment. Online education has great potential as an educational medium. Students, who have medical needs, live in rural settings, have commitments that keep them from attending traditional schools, or are home-schooled, could utilize an online model of education. Online education can offer a form of independence that traditional schooling does not allow. Synchronous courses can provide both teacher and student interaction while asynchronous courses allow students to work more independently. A student must be self-motivated and self-regulated to be able to work in an online environment effectively. Younger students require more direction and supervision (Huet et al., 2008). This research studied the supports necessary for primary age students, grades K-2, to succeed in the virtual school model.

**Recommendations**

When putting the Transformational Theory into practice in an online instructional model Barker recommends that organizations tap into their most valuable resource, their employees, when making decisions about how to strategically move forward in the future. Barker does not think moving slowly and strategically is the best solution, but rather emphasizes being able to predict and learn about the future prior to it happening in order to make the best decision overall. As Barker states in *Scouting the Future*, related topics of interest include “emerging trends, innovations, policy changes, new laws, strategic objectives and goals, and big events” (Barker, 2017). In online education, this theory works well because of how quickly technology develops and has to be implemented.

In addition, Alfie Kohn’s theoretical perspective for this study provides an understanding that too much praise can create a lack of motivation within students. Self-direction is a key to
student engagement and through this study found to be essential in a virtual environment. This allows for the traditional teacher-centered classroom to be transformed into a student-centered classroom for “what matters is not what we teach; it’s what they learn” (Kohn, 2010, p.7). Kohn recommends that adults take the approach to “Say what you saw.” (Kohn, 2001, p. 5). Kohn provides the virtual teacher with a framework to utilize the tools provided by an online learning environment to develop self-directed learners who are learning for the value of learning.

The virtual academy is a data-driven school and has found that teacher-based team meetings are a key to the success of teachers knowing their students on an individualized level. Teacher-based team (TBT) meetings are held on a weekly basis. Those attending the weekly TBT meeting include the grade level lead teacher, all teachers within the teaching pod, the Intervention Specialist that serves that pod, the grade level instructional support team member, and, as scheduling allows, the grade level At-Risk Specialist. Every week teachers spend time gathering the data from their class of students. They look at the number of live online lessons attended, the number of lessons completed within the curriculum, and their progress monitoring score for that week. Teachers discuss the researched-based interventions that have been put in place. They discuss if they feel the interventions are working. They discuss if they feel if the lack of academic gains has to do with a lack of exposure or engagement in actual schooling. All notes are documented on the TBT spreadsheet and posted in the Share Point communication system for the week. Notes for students are tracked from one week to the next to see growth. The TBT look at this data regularly and by increasing the intensity of the TBT process the virtual school model might be able to intervene before a student gets too far behind both with their progress and academic performance.
Through tracking student’s attendance in live online instruction, student and learning coach engagement, and consistent progress completion on a weekly basis, teachers can come to their TBT meetings prepared to analyze the data and discuss action steps for coaches to follow at home. The next week’s data should show whether there was progress in those areas of participation. If participation increases to acceptable levels and the student is still struggling, the TBT will have to identify additional intervention strategies.

**Future Research Opportunities**

This study lends itself to a variety of additional future research studies due to the fact that online education is still relatively new for primary, K-2nd grade, education and there is a vast amount of data available. This study focused on the quantitative data, but there are many qualitative or mixed method directions of research that could be completed in order to drill down even further in the data utilizing surveys and focus groups. This study was basically just an introduction to primary online education and there is so much more to explore.

One example for future research would be to complete a longitudinal study to see if the kindergarten through 2nd grade students in this current research study were proficient in reading by the time they took the 3rd grade Ohio Department of Education state reading assessment. Did students with participation issues correct those problems? Did increased participation in students who were at-risk of failure result in greater success? It would also be interesting to take this study a step further and dig deeper into the data and anecdotally see if there are trends among the students that are not succeeding academically. Are there trends among grade levels?

An additional opportunity for a qualitative research study would be to look at the research-based reading interventions used within live online lessons when teaching in an online classroom. How did teachers use data to make adjustments in the reading curriculum? What
interventions with students resulted in improvements in reading assessments? Daly, Chafouleas, and Skinner (2005) state it is important to provide students with a foundation of early literacy skills, i.e. basic skills that are necessary to build upon to develop fluent readers. When students do not have these skills they operate at a deficit that makes it difficult for them to move forward in their reading progress. According to Stinnett (2009) when providing reading interventions, teachers are looking to meet the needs of all students through differentiated instruction at their learning levels. It is important to first effectively identify students and assess them to find out where to place them in their curriculum and for direct instruction for remediation. Students who receive interventions provided by the general education teacher have been found to make significant gains through systematic interventions (Stinnett, 2009). Does the curriculum incorporate these “best practices” in teaching reading?

Another qualitative study could take a look at parental involvement in their primary, K-2nd grade, student’s education in a brick and mortar setting as compared to an online school setting. Banard found the brick and mortar setting to define parental involvement as "includes parenting, learning at home, communicating with the school, volunteering at school, decision making in the school, and collaborating with the community" (Banard, 2004). Does this comparison hold true to online parent involvement from the parent’s perspective? By completing a survey or focus group questions could be asked of brick and mortar and online school parents. The questions could focus on the amount of time spent on educational activities, the types of activities completed, and what parents found themselves doing to make sure their child was successful in the completion of their schoolwork. Information could be gathered to find out the parent or learning coach’s perspective on their commitment level for their child’s education and what the difference was between online and brick and mortar education.
Another interesting qualitative study could gather information from online school parents as to why they chose an online school. This information has been asked by teachers of online school parents as a conversation starter and relationship builder for years, but the information has never been gathered in one place for research purposes. There are many reasons why parents chose to school their children in an online environment. It would be very interesting to gather this data.

The theoretical framework of transformational change theory was applied to this research study due to the paradigm shift from a brick and mortar and an online educational model. The transformational change allows for collaboration and change in a positive direction, taking what is working in reading instruction in a brick and mortar model of education and transferring it to an online model. Transformational change theory (Barker, 2017) can also be applied at the university level and through professional development when preparing teachers to be online instructors. Recognizing that teachers are their most valuable resources and that the technology world changes rapidly, moving slowly and strategically to address change may not the best solution. Teachers need to be prepared to work collaboratively and use data to address the needs of their online students. Leaders must also be trained to use data and work collaboratively with their team to make the most informed decisions for the children in their charge.

The implications of this study should inform us further in providing teachers professional development and college level instruction on how to teach in an online teaching environment. Huet et al. (2008) suggest that the research needs to move to looking at the quality of instruction and successful teaching within online education. This is due to the fact that teachers are not educated to be online educators, so assuring that online teachers are instructing at a quality level is a necessity. The focus should be on designing instructional courses or creating a course shell
and then look at the quality of associated instruction and how engaging it is to the learner (Huet et al., 2008).
REFERENCES


APPENDIX A

AIMSweb Kindergarten Score Report Sample

AIMSweb TEL Improvement Report for School Year

FILTER:
Comparison: AIMSweb National Norms
Reporting Method: AIMSweb Defaults - Norm Referenced
LNF - 10, 25, 75, 90 percentile calculated at the AIMSweb level
LSF - 10, 25, 75, 90 percentile calculated at the AIMSweb level
Target Sets: AIMSweb Defaults

Compared To: AIMSweb National Norms
All Measures

Grade, Benchmark Period, Outcome Measure right © 2017 by NCS Pearson, Inc.

Benchmark Comparison: AIMSweb National Norms

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Year</th>
<th>Grade</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Level of Skill</th>
<th>Instructional Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter Naming Fluency</td>
<td></td>
<td>K</td>
<td>30</td>
<td>49</td>
<td>50</td>
<td>Average</td>
<td>Continue Current Program</td>
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<tr>
<td>(LNF)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Letter Sound Fluency</td>
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<td>K</td>
<td>38</td>
<td>44</td>
<td>Average</td>
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<td></td>
</tr>
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<td>(LSF)</td>
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<td></td>
<td></td>
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</table>
APPENDIX B

AIMSweb First Grade Score Report Sample

AIMSweb TEL Improvement Report for School Year

Compared To: AIMSweb National Norms

All Measures

Benchmark Comparisons: AIMSweb National Norms

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Year</th>
<th>Grade</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Level of Skill</th>
<th>Instructional Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter Naming Fluency (LNF)</td>
<td>K</td>
<td>12</td>
<td>37</td>
<td>26</td>
<td>Below Average</td>
<td>Further Assess and Consider Individualizing Program</td>
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</tr>
<tr>
<td>Letter Sound Fluency (LSF)</td>
<td>K</td>
<td>12</td>
<td>30</td>
<td>30</td>
<td>Average</td>
<td>Continue Current Program</td>
<td></td>
</tr>
<tr>
<td>Name Sense Word Fluency (NWF)</td>
<td>K</td>
<td>21</td>
<td>31</td>
<td>31</td>
<td>Average</td>
<td>Continue Current Program</td>
<td></td>
</tr>
</tbody>
</table>

1st Grade

Aggregate (non-stratified) norms will be used when stratified norms are unavailable.
AIMSweb

FILTER:
Comparisons: AIMSweb National Norms
Reporting Method: AIMSweb Defaults - Norm Referenced
R-CBM - 10, 25, 75, 90 percentile calculated at the AIMSWeb level
R-Feb - 10, 25, 75, 90 percentile calculated at the AIMSWeb level
MAZE - 10, 25, 75, 90 percentile calculated at the AIMSWeb level
Target Set: AIMSweb Defaults

Reading Improvement Report for [ ] School Year

Compared To: AIMSweb National Norms
All Measures
Lexile® Measure: BR

Units

Above Average
Average
Below Average

Grade Benchmark Period, Outcome Measure: [ ] by NCS

Benchmark Comparison: AIMSweb National Norms

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<thead>
<tr>
<th>Outcome Measure</th>
<th>Year</th>
<th>Grade</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>Level of TEP</th>
<th>Lexile Measure</th>
<th>Instructional Recommendation</th>
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<td>Reading - Curricular Based Measurement (R-CBM)</td>
<td>1</td>
<td>10</td>
<td>23</td>
<td>Average</td>
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<td>MAZE - Comprehension (MAZE)</td>
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<td>0</td>
<td>2</td>
<td>Average</td>
<td>BR</td>
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</table>

Note: Visit Find-a-Book, AIMSweb (http://www.aimsweb.com/findabook) to search for books at the student’s reading level. Lexile measures are only reported for the most recent Benchmarking period. If a student has both R-CBM and MAZE scores for this benchmark period, only the Lexile measure based on R-CBM is reported as it is the more accurate estimate.

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Aggregate (non-stratified) norms will be used when stratified norms are unavailable.
APPENDIX C

AIMSweb Second Grade Score Report Sample
### APPENDIX D

**End-of Year-Synopsis Spreadsheet Header**

<table>
<thead>
<tr>
<th>Student ID</th>
<th>Student Last Name</th>
<th>Student First Name</th>
<th>Gender</th>
<th>School Enroll Date</th>
<th>14-15 Grade</th>
<th>15-16 Grade</th>
<th>15-16 Grade Level</th>
<th>15-16 Pod</th>
<th>15-16 Primary Teacher</th>
<th>15-16 Special Ed. Teacher</th>
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</thead>
<tbody>
<tr>
<td>Birthday</td>
<td>In Special Ed.</td>
<td>Alternate Assessment</td>
<td>504 Plan</td>
<td>Advanced Learner Program</td>
<td>Grade Level Advancement</td>
<td>15-16 Grade Level</td>
<td>Reason for Retention or Placement</td>
<td>Retention History</td>
<td>15-16 Recommended Instructional Model</td>
<td>14-15 Instructional Model</td>
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<td>Synchronous CC Requirement Concerns</td>
<td>Synchronous CC Requirement Concerns Summary</td>
<td>14-15 F2F Testing Completed</td>
<td>13-14 F2F Testing Completed</td>
<td>Written Portfolio Submitted</td>
<td>Writing Goal Overall</td>
<td>Study Island Math Completed</td>
<td>Progress Monitored</td>
<td>Reading Progress Monitoring Final Summary</td>
<td>Math Progress Monitoring Final Summary</td>
<td>Engagement Level</td>
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<td>Success Plan</td>
<td>Progress Concerns</td>
<td>Progress Concerns Summary</td>
<td>IPT Started</td>
<td>Attendance Concerns</td>
<td>Attendance Concerns Summary</td>
<td>LC Communication Concerns</td>
<td>LC Communication Concerns Summary</td>
<td>Approved for Instructional Support</td>
<td>LC Accepted Instructional Support</td>
<td>Letter Factory DVD Received</td>
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<td>Talking Words Factory 2 The Code DVD Received</td>
<td>Number Land DVD Received</td>
<td>Math Circus DVD Received</td>
<td>Additional Information</td>
<td>Schooling Concerns Letter Requested</td>
<td>Schooling Concerns Letter Reasons</td>
<td>AIMSweb Retest In August</td>
<td>Measure(s) for AIMSweb Retest</td>
<td>Retention Ability (based on birthday)</td>
<td>Retention Administrator Approval Status</td>
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</tbody>
</table>

Count of PM Scores
APPENDIX E

Student Engagement Rubric

Low Engagement
Student exhibits two or more of the indicators below:

1. Student has inadequate progress in LA and/or Math
2. Student has many periods of little to no attendance
3. Student rarely turns-in assignments as requested
4. Student rarely participates in live online instruction or other recommended activities.
5. Student is resistant to participating in required state or school assessments.
6. Student/parent does not participate on a regular basis in scheduled conference calls.
7. Parent does not read or respond to school e-mail

Average Engagement
Student exhibits two or more of the indicators below:

1. Student maintains average progress in LA and/or Math
2. Student maintains attendance but may require occasional prompting.
3. Student turns in assignments regularly but may require occasional prompting.
4. Student participates in most live online instruction or other recommended activities.
5. Student/parent participate in most scheduled conferences with occasional prompting.
6. Parent/students reads and responds to most school e-mail

High Engagement
Student exhibits two or more of the indicators below:

1. Student has expected or above average progress in LA and/or Math
2. Student has expected attendance
3. Student turns in assignments as expected
4. Student participates regularly in live online instruction and other recommended activities.
5. Student/Parent participates regularly in scheduled conferences
6. Parent/students read and respond to school e-mail promptly.