LITERACY LEARNING LOSS AND THE MITIGATING ROLE OF THE HOME LITERACY ENVIRONMENT DURING THE COVID-19 SCHOOL CLOSURES:
AN UNPRECEDENTED STORY

by
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Abstract

The purpose of this study was to examine literacy achievement in an intermediate school in New York, for a third-grade cohort not meeting state benchmarks, and the potential exacerbation of this problem due to the COVID-19 school closures. Utilizing ecological systems theory as a framework, contributing factors such as the impact of a global pandemic, the home literacy environment, parental education, parent and student attitudes toward reading, teacher self-efficacy, and reading instructional approaches were examined. A mixed methods needs assessment was conducted to investigate teachers’ perceptions of literacy learning loss, student reading achievement pre-and post-school closures, as well as the home literacy environments of the sample. The quantitative data revealed that the students outperformed themselves from the year prior as well as third graders dating back to 2016. Further, students had access to strong home literacy environments during the pandemic. However, the qualitative data from third grade teacher interviews suggested a perception of literacy loss as well as an identified lack of connection with students during the closures. To address this discrepancy, an applied project was developed in the form of a children's book titled, *Unprecedented*. The book aims to 1) share the research outcomes of the needs assessment, 2) honor the potential mitigating role of the home literacy environment, and 3) provide a tool in which students can discuss and reflect on their own experiences of learning during the school closures.
Dedication

I dedicate this dossier-style dissertation to the students that need the extra push and a little extra time to find their passion and their spark.

Never give up.

I see you.
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Page</td>
<td>i</td>
</tr>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Dedication</td>
<td>iii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>iv</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>v</td>
</tr>
<tr>
<td>List of Tables</td>
<td>vii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>viii</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>ix</td>
</tr>
<tr>
<td>Chapter 1</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Problem of Practice</td>
<td>2</td>
</tr>
<tr>
<td>Theoretical Framework</td>
<td>5</td>
</tr>
<tr>
<td>Literature Review</td>
<td>5</td>
</tr>
<tr>
<td>Summary</td>
<td>25</td>
</tr>
<tr>
<td>Chapter 2- Needs Assessment</td>
<td>27</td>
</tr>
<tr>
<td>Context</td>
<td>27</td>
</tr>
<tr>
<td>Research Questions</td>
<td>29</td>
</tr>
<tr>
<td>Method</td>
<td>29</td>
</tr>
<tr>
<td>Procedure</td>
<td>36</td>
</tr>
<tr>
<td>Findings</td>
<td>42</td>
</tr>
<tr>
<td>Limitations</td>
<td>53</td>
</tr>
</tbody>
</table>
Conclusion ................................................................................................................................. 54

Chapter 3- Applied Project Rationale ......................................................................................... 55
  Applied Project .......................................................................................................................... 55
  Unprecedented............................................................................................................................ 59
  Summary ................................................................................................................................. 66

Chapter 4 .................................................................................................................................. 67
  Manuscript ............................................................................................................................... 69
  Discussion Guide ......................................................................................................................... 76
  Message from the Author ........................................................................................................... 76
  About the Author ....................................................................................................................... 77
  Discussion ................................................................................................................................ 77
  Implications ............................................................................................................................... 78
  Reflection .................................................................................................................................. 81

References .................................................................................................................................. 83

Appendices ................................................................................................................................. 98
  Appendix A- STAR Assessment Reliability Rating ................................................................. 98
  Appendix B- Cronbach’s Alpha Reliability Coefficient PIRLS 2016 ..................................... 99
  Appendix C- Literacy in the Home Parent Survey ................................................................. 101
  Appendix D- Parent Recruitment Letter ................................................................................. 104
  Appendix E- District IRB Approval Letter ............................................................................... 105
  Appendix F- Renaissance STAR Reading Categories by Percentile Ranking .................... 106
LIST OF TABLES

Table 1- Ecological Systems Theory and Potential Contributing Factors.................................5
Table 2- 2020–2021 Third-Grade Demographics.................................................................31
Table 3-2020–2021 Teacher Experience and Assignment.......................................................33
Table 4- Intervention Categories by Percentile........................................................................39
Table 5- Fall STAR Scores Grade 3 cohort of 2020–2021.........................................................42
Table 6- Fall STAR Scores Grade 3 Performance 2016–2020..................................................44
Table 7- Mean Fall STAR Scores Grade 3 Performance 2016–2020.......................................44
Table 8- PIRLS Literacy in the Home Parent Survey: Number of Book in the Home.............46
Table 9- PIRLS Literacy in the Home Parent Survey: Parent Reading Habits..........................47
Table 10- Story Components and Needs Assessment Connection.........................................62
Table 11- Draft Plot Components and Chapter Connections.................................................64
Table 12- Illustration suggestions by Page Number.................................................................68
LIST OF FIGURES

PAGE

Figure 1- Potential Contributing Factors to Literacy Loss……………………………………………26
Figure 2- Draft Plot of “Unprecedented” ………………………………………………………………63
Figure 3- Book Layout and Illustration Sketches………………………………………………………67
Executive Summary

This study examined literacy achievement within an intermediate school in the state of New York. Within this context, the percentage of third grade students who were not meeting grade level literacy achievement benchmarks were above state standards. The COVID-19 school closures, which required students to shift to online learning, may have exacerbated this problem. In order to understand why students were underperforming, the researcher first explored potential contributing factors using the ecological systems theory (Bronfenbrenner, 1992). Literacy achievement is impacted by a variety of factors within different levels of the system impacting the child. The home literacy environment (Tichnor-Wagner et al., 2016), parent (Partin & Hendricks, 2002), and student attitudes towards reading (Roman & Pinto, 2015), preschool attendance (Valenti & Tracey, 2009), teacher self-efficacy (Arrow et al., 2019), parental education (Myrberg & Rosen, 2010), and reading instructional approaches (Squires & Bliss, 2004) contribute to literacy development and literacy success. School closures as a result of traumatic life events (Gershenson & Tekin, 2018) can also impact learning and achievement.

To determine the salient factors contributing to this problem, a needs assessment was conducted. The researcher utilized a convergent parallel mixed methods design to collect data from parents, students, and teachers. Survey data was collected from parents of third grade students, on their home literacy environment during the closures and their child’s pre-school attendance. In addition, pre-existing student literacy achievement data from third graders was analyzed. Further, third-grade teachers were interviewed on their perceptions of literacy achievement post school closure. The quantitative data from the parent survey and student achievement data were analyzed using descriptive statistics. The qualitative interview data was coded for emergent themes using thematic analysis. The quantitative and qualitative data were
merged to determine if and how they confirmed or disconfirmed each other, which resulted in a theme that captured both datasets.

The quantitative findings revealed that loss in the area of literacy achievement did not occur during the school closures. Students outperformed themselves when compared to their scores in the fall prior to the pandemic. Further, they outperformed third grade cohorts dating back to 2016. The quantitative data also revealed that students were exposed to rich literacy home environments, which included access to books and digital materials, during the closure. However, the teacher interviews did not suggest a positive perception of literacy achievement for the third-grade cohort. They believed students exhibited literacy learning loss that was attributed to the pandemic. In addition, they felt a lack of teacher-student connection during the time of virtual learning. The divergence in the data supporting student gains in literacy outcomes and the expectation bias of teachers who did not perceive those gains, required a unique applied proposal that leveraged the success of students, dispelled the learning loss narrative, honored the potential mitigating role of the home literacy environment, and supported the desire of teachers to connect with their students. As such, the researcher chose to write a children’s picture book for the applied project.

The children’s book titled, *Unprecedented*, aims to target both adult and child audiences. This book depicts the story of the needs assessment along with the unexpected outcomes and possible reason for the outcomes. The book includes an introduction and study guide to support the targeted audience in using the book to explore difficult content (Welsh et. al, 2020) and form connections (McGinley et. al, 2000), while recognizing the value and influence of the home literacy environment during quarantine (Bourke et. al, 2021).
Chapter 1

Introduction

The COVID-19 pandemic of 2020 resulted in mandated school closures across the United States. During this time, instruction moved to online platforms and teachers, students, and families needed to adjust to virtual instruction during the crisis. Although the closures may have impacted students and student achievement in a variety of ways, the following synthesis of literature will explore how elementary literacy achievement may have been affected. Although literacy can include multiple definitions (Ahmed, 2011), in this dissertation dossier, literacy achievement is defined as reading performance in the classroom, measured by teacher assessment and locally selected literacy achievement measures. Specific benchmarks for achievement are placed at each grade level in order to assess achievement in the areas of reading, specifically decoding (reading the text) and comprehension.

According to the New York State guidance plan for Response to Intervention in grades K–4, 80% of students should be reading at or above grade level in reading if appropriate curriculum and instruction are in place (New York State Education Department [NYSED], 2010). However, several factors including, but not limited to access to rich literacy home environments (Tichnor-Wagner et al., 2016), preschool attendance (Valenti & Tracey, 2009), teacher self-efficacy (Arrow et al., 2019), and summer setback (Allington et al., 2010) all have implications on student literacy performance. School closures during the COVID-19 pandemic may have parallel consequences as summer setback, particularly for students from low socio-economic households who have historically performed lower than their non-disadvantaged peers (Allington et al., 2010). When school is not in session during summer, the accessibility gap increases affecting performance year after year. The 2020 COVID-19 school closures may have
added a new layer of inequity, and Wyse and colleagues (2020) predict a significant impact on learning and achievement specifically in the core subjects of math and reading.

**Problem of Practice in the Literature**

The No Child Left Behind Act (NCLB), of 2002, and more recent Every Student Succeeds Act (ESSA) of 2015, are federal initiatives to address learning gaps across the United States (Department of Education, 2021). Learning gaps and achievement discrepancies are commonly found amongst student groups identified by gender, race, socio-economic status, ethnicity, and level of parental education (Hung et al., 2020). Using achievement data from 2,868 school districts, Hung and colleagues (2020) examined the math and ELA scores for students in grades three through eight across five years. The study findings indicated that both race, employment status, and parental schooling level significantly impact student achievement. Students in white households with a parent that held a bachelor’s degree or higher showed the highest achievement rates. Disparities amongst these factors also influence college enrollment trajectories. Charles and colleagues (2007) found that race, household income and parental education level are directly related to college enrollment. These studies reveal the long-term impact of parental, societal, and economic factors on the learning gap. Traumatic societal events can exacerbate gaps in achievement.

Traumatic life events such as natural disasters, health threats, and violence can negatively impact student achievement and performance (Gershenson & Tekin, 2018; Gibbs et al., 2019; Haeck & Lefebvre, 2020). In a study conducted on 33,690 students in Australia, Gibbs et al., (2019) examined student achievement in the areas of literacy and math two to four years after the Black Saturday bushfires. Students in grades three through five, living within proximity to the fires who experienced school closures and academic disruptions, displayed a decline in academic
performance. Similarly, students in grades three through five, living within a 5-mile radius of the Beltway Sniper attacks in the Washington D.C. area in 2002, experienced academic regression in mathematics and language arts and a decrease in proficiency when compared to students who lived further from the attacks (Gershenson & Tekin, 2018). School closures during the COVID-19 pandemic, may impact student learning in a similar way. In addition, it may exacerbate the achievement gaps as a result of inequitable access and inconsistent instruction during that time (Haeck & Lefebvre, 2020).

In a predictive study utilizing STAR Reading data from 45,000 schools across the United States, Wyse et al., (2020) suggest the expected learning gaps due to COVID-19 school closures in 2020, which include lapses in skill instruction will be greatest at the elementary levels. Further, Haeck and Lefebvre (2020) reviewed the potential implications of the closures on student achievement, specifically due to inequities in households, student access to technology, and socio-economic gaps. In alignment with Wyse and colleagues (2020), their review of Canadian student achievement data in conjunction with previous research on school disruptions also suggest the expectation of academic decline as a result of the COVID-19 school closures. According to these predictive studies, school closures may have an impact on students’ academic performance. In particular, those from lower social economic households may be at greater risk, which increases the already existing learning gap between students from low socioeconomic and more affluent households. Further, accessing academic resources during the school closures in 2020 were significantly higher in areas with above average household incomes (Bacher-Hicks et al., 2020).

The achievement gap related to the COVID-19 school closures added additional inequities to economically and historically marginalized groups through job loss, increased food
insecurity, access to wifi, and digital resources. In a tracking study across 100,000 schools, Parolin and Lee (2021) discovered that schools with lower math scores, high minority student enrollment, and large numbers of non-English speaking students were more likely to close during the fall and winter of 2020. The researchers attribute these closures to higher rates of COVID-19 transmission in densely populated neighborhoods. Further, accessing academic resources during the school closures in 2020 were significantly higher in areas with above average household incomes. These findings further support the likelihood of a widening accessibility gaps as a result of the COVID-19 school closures.

Problem of Practice in Context

The study site is located within a suburban school district in Long Island, New York. The district encompasses three major communities which are zoned within the district. The K–12 school district services 1700 students enrolled across four buildings-primary (grades K–2), intermediate (grades 3–5), middle (grades 6–8), and high (grades 9–12) schools. According to the New York State Education Department (NYSED, 2016), 49% of students enrolled within the district are considered economically disadvantaged and three out of the four schools are Title 1 schools. There is no preschool option available within the study site, therefore parents who seek to enroll their children in preschool must do so independently. During the 2019–2020 school year, the district closed due to the COVID-19 pandemic on March 13th. All instruction for the remainder of the school year occurred through online digital platforms. When the district opened in the Fall of 2020, 33% of elementary students in grade K–5 opted for virtual learning. The district’s Response to Intervention (RtI) plan provides reading intervention services for students who do not meet benchmarks in the area of reading in grades K–4 as per New York State guidance (NYSED, 2010). During the school closure, reading intervention services were
provided via Webex to 20% of the students. During the 2020–2021 school year, in person students received reading support in person and virtual students received intervention services via Webex.

**Theoretical Framework**

Ecological systems theory (EST) provides a structure in which to organize the presented research as it relates to literacy achievement and the impact of school closures during a global pandemic. EST suggests a complex nested set of systems which impact a child’s development. The chronosystem, exosystem, macrosystem, mesosystem, and microsystem serve as the layers of interaction that a child experiences in their lifetime (Bronfenbrenner, 1992). This synthesis of literature will use the ecological systems theory as a model in which to examine how the COVID-19 school closures may have impacted student literacy achievement at the elementary school level. Table 1 lists the layers of EST and the corresponding factors that lie within each of the layers that could potentially impact literacy achievement.

**Table 1**

*Ecological Systems Theory and Potential Contributing Factors*

<table>
<thead>
<tr>
<th>Layer of EST</th>
<th>Description</th>
<th>Factors Influencing Literacy</th>
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<tbody>
<tr>
<td>Chronosystem</td>
<td>historical events and life transitions</td>
<td>global pandemic, traumatic event</td>
</tr>
<tr>
<td>Macrosystem</td>
<td>laws, policies, and cultural ideology</td>
<td>stay home orders, mandated school closures, reading wars</td>
</tr>
<tr>
<td>Exosystem</td>
<td>child’s neighborhood and community</td>
<td>Media surrounding pandemic, learning loss predictions, literacy trends</td>
</tr>
<tr>
<td>Mesosystem</td>
<td>home and school relationship</td>
<td>virtual learning, teacher self-efficacy, culturally responsive competencies, preschool attendance, parental and student attitudes to reading</td>
</tr>
<tr>
<td>Microsystem</td>
<td>immediate home environment</td>
<td>home literacy environment, parental education, parental and student</td>
</tr>
</tbody>
</table>
The chronosystem, which represents the outer layer of the five systems includes historical events and life transitions that could potentially impact literacy learning loss. In this case, attention is given to the global pandemic as a historical event. The macrosystem consists of laws, policies, and cultural ideology which includes the stay home-orders, mandated school closures, travel bans, and quarantine and testing regulations imposed on individuals with potential virus exposure. The exosystem, which is the layer that includes the child’s neighborhood and community, includes influences that impact the child in an indirect way. During the school closures, the media played a large role in how the pandemic was perceived and handled, which indirectly impacted students. The mesosystem is where the child’s settings interact. It is in the mesosystem where the home and school relationship reside and where bonds were built or broken during quarantine. At the core of ecological systems theory is the microsystem. This is where nurturing and family relationships occur. The microsystem includes the child’s immediate home environment, which had a dual role as the school environment during the pandemic closures.

There are several contributing factors that lie within each and across layer of EST. It is through the EST lens that these factors will be reviewed in the literature. This review will examine the influence and implications of factors across the leveled systems relating to gaps in literacy achievement that may be exacerbated by the COVID-19 school closures. Contributing factors will include the global pandemic, home literacy environment, parental education,
preschool attendance, school closures and virtual learning, teacher perceptions and literacy beliefs, and culturally responsive competencies.

**Global Pandemic**

A global pandemic is a historical event that is situated within a child’s chronosystem. On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 outbreak as a global pandemic. It is the first global pandemic experienced by children born on or after the H1N1 pandemic between 2009–2010. According to the interim report on the origins of the COVID-19 pandemic published by the United States Senate (2022), the COVID-19 pandemic can be traced back to an outbreak in Wuhan, China in 2019. The report indicates that over one million Americans have died from the virus since the first case was confirmed in the United States in January of 2019. On March 15, 2020, states began closing schools and local agencies, and by March 28, 2020, the federal government issued a stay-at-home order with social distancing guidelines (Centers for Disease Control [CDC], 2022).

Changes in laws and policies directly affect a child’s macrosystem. On March 16, 2020, the Governor of New York mandated all schools to close for at least two weeks. This executive order was extended approximately every two weeks thereafter until an official order on April 11, 2020, when he declared that schools would remain closed for the remainder of the school year. Additionally, stay at home orders and mask mandates were put in place. Guidance for the reopening of schools in Fall 2020 was not released until July 16, 2020. The guidance document included requirements for social distancing, mask wearing, contact tracing, and quarantine regulations (NYSED, 2020). Further, districts were required to offer virtual instruction as an option for students. Some schools remained virtual for the entire 2020–2021 school year, while others provided hybrid options.
Differences in local decisions across districts may have led to or exasperated inequities in instruction between affluent and less affluent districts and communities (Walters, 2020). For example, underfunded districts may not have been able to provide devices to students, while affluent districts found themselves in the position to be able to provide all the necessary resources to make the immediate pivot to virtual instruction. Walters (2020) highlights the idea that districts situated in poorer neighborhoods may have delayed virtual instruction as a result of needing to focus on other issues such as lunch programming and providing internet access first. This supports the data revealed through an analysis of Google searches by Bacher-Hicks et al., (2020), that students residing in higher income homes and neighborhoods had a higher frequency of internet searches related to virtual learning.

**School Closures and Virtual Learning**

With the closing of schools as a result of the local and federal mandates, the school experience, which is situated in the child’s mesosystem was interrupted. The mesosystem is where the home and school connection thrive and the home-school connection played an important role during the closures. The communication between the home and the school played a vital role during the pandemic (König et al., 2020). Instruction moved to digital platforms and all communication between parents and school personnel occurred via email, messaging platforms, phone calls, and video conferencing. Social media platforms such as Facebook played a critical role in home-school communication as a method to maintain school spirit, share information, and maintain a connection with families (Rosenberg & Nguyen, 2021). The use of virtual communication such as social media can increase the home-school relationship and can be a useful method to connect with families (Wang, 2013). Additionally, with the shift to virtual instruction, parents and guardians who were working from home due to the stay-at-home orders
had greater access to watching and listening to daily instruction. While the research suggests that parent involvement has always had a strong relationship to students’ success (Hara & Burke, 1998), communications with families during the Covid-19 crisis was even more critical (König et al., 2020). In their study on utilizing technology to maintain contact during the school closures in Germany, König et al., (2020) surveyed 165 teachers who expressed that ongoing communication via digital technology with families needed to be deliberate and consistent in order to remain connected. Survey results revealed how a variety of digital tools including gaming and digital curriculum materials were used for outreach.

The ability for teachers to access parents in order to share critical information about their child’s instruction was a vital component of maintaining a strong virtual learning experience during the closures. Additionally, the school often served as a tool to communicate changes in mandates including school closure extensions and mask requirements. Essentially, the parent became a direct partner in their child’s daily virtual school experience. In their systematic review of articles, Carrión-Martinez et al., (2021), gathered research produced between February and March 2021 on family-school relationships, teacher-student relationships, and family-student relationships. Results of the review included a discussion on the critical nature of pre-exiting relationships with families that needed to be strengthened during the pandemic and how the use of technology was essential in maintaining these communications during the closures.

In addition to the home school connection being affected by closures, when schools are closed for any reason, learning may be impacted. This includes closures due to summer breaks (Alexander et al., 2007), natural disasters (Gibbs et al., 2019), and pandemics (Braunack-Mayer et al., 2013). In studies on school closures, research has found that when students are on long
breaks from school, learning loss is probable. This is particularly more likely for students from low socio-economic backgrounds (Entwisle et al., 1997).

Entwisle et al., (1997) established the concept of faucet theory in connection to the summer setback when schools are closed. Faucet theory is the idea that students from low socio-economic backgrounds find themselves at a significant disadvantage when schools are closed during the summer months resulting in a total shut-off from resources. Findings on the long-term effects of summer learning loss accumulated across grades 1 through 9 reveal that students from low socio-economic households are less likely to find themselves on a college track (Alexander et al., 2007). Wealthier students avoid this summer slide by engaging in summer activities that their poorer peers may not have access to such as summer camps and travel. Although schools were still operating during the COVID-19 school closure, a parallel may be drawn to the reduction of resources and possible impact on student learning as demonstrated by the faucet theory.

The shift to online instruction and learning may also have implications on student achievement (Besser et al., 2020; Braunack-Mayer et al., 2013; Ikhsan et al., 2019; König et al., 2020). In a study by Braunack-Mayer et al., (2013), school community members including principals, staff, parents, and students were interviewed regarding their school’s response during the H1N1 pandemic. The data from this Australian study indicated that schools with a strong pre-existing trust and relationships with parents and guardians experienced stronger communication, trust in decisions, and less disruption to instruction during the crisis. Further, strong communication during school closures is associated with higher student achievement (Hara & Burke, 1998; Wang, 2013). In their study on parent involvement, Hara & Burke (1998) designed a parent partnership program that included collaboration with the school, volunteer opportunities,
and learning at home training. After two years of implementing the program, third grade reading achievement had increased indicating a relationship about the critical nature of the home-school partnership. For online learning, the parent relationship is particularly important.

While strong communication may serve as a protective factor, several challenges to online learning can impede student achievement. A more recent study, during the COVID-19 pandemic, König et al., (2020) surveyed German teachers who switched to online learning as a result of the school closures. Several challenges were reported as obstacles that interfered with student learning including technology issues, communication barriers, and difficulties in identifying appropriate assessments.

The Home Literacy Environment During the months of online learning, parents and guardians were charged with monitoring their child’s virtual school day at home. For children living in areas with high infection rates, or for families that opted for virtual instruction, this change to the microsystem continued into the 2020–2021 school year. The home literacy environment, early exposure to literacy and preschool attendance, as well as parent attitudes toward literacy lies within the microsystem (Rohde, 2015; Doyle, 2013). Emergent literacy theory suggests that early exposure to literacy concepts such as letters and sounds, and consistent literacy activities in the home provides the foundation for literacy success in young children (Rohde, 2015). Considering the impact of the home and its relationship to emergent literacy, the literacy growth of the students during the months of quarantine and stay-at-home order may have been heavily influenced by the literacy practices in the home.

The home literacy environment and the extent to which students are exposed to books and reading materials plays a role in student literacy achievement (Hartas, 2012; Roberts et al., 2005; Smith, 2020; Van Bergen et al., 2017). In a study of four distinct home literacy practices,
Roberts et al., (2005) examined how shared book reading, maternal book strategies (e.g., reading bedtime stories), child enjoyment of reading, and maternal sensitivity impacted early literacy achievement specifically in the preschool years. Even though the four indicators were only moderately correlated to achievement, the overall quality of the home environment, which included observations on language stimulation and maternal involvement, predicted literacy outcomes.

Maternal involvement was also instrumental in a United Kingdom study involving 9,419 seven-year-old students. In this study, the home learning environment was investigated for its relationship with literacy achievement. Higher home learning support, maternal affect and maternal reading habits were linked to a reduction in children’s below average classifications in reading, writing, speaking, and listening. Although intentional at-home reading and literacy activities such as bedtime stories tend to decline between the grades of three and six (Boerma et al., 2018), the literacy activities in the home, including the number of books accessible to the child may influence literacy and literacy achievement. In a study on reading fluency and decoding, Van Bergen et al., (2017), studied the home literacy environment of 111 families in Amsterdam. Survey data regarding parental level of education, parental reading frequency, numbers of magazines and books in the home, and access to books were collected and analyzed with fluency reading data collected using a 145-item reading test. The analysis revealed that although children’s reading levels were most likely connected to the variables studied, access to books in the home was revealed to have the strongest correlation to the reading scores

**Parental Attitudes Towards Reading and the Home Literacy Environment**

Situated within a child’s microsysyem and mesosystem are parental and student attitudes toward reading, which can influence development and reading performance (Niklas et.al, 2020).
In a study on parental attitudes toward shared reading and its influence on literacy competencies of 133 three-year old children, Niklas et.al (2020) revealed that parents who selected I completely agree to positive statements about reading on a Likert scale survey had children that scored higher on linguistic competency tests. Linguistic competencies of the testing included language and comprehension, non-verbal cues, and semantic relations. Similar trends emerge with adolescents. Partin and Hendricks (2002) studied the relationship between parental attitudes towards reading in the home. In their study of 160 tenth grade students, it was revealed that positive attitudes toward literacy and reading were linked to positive memories of being read to as a small child, receiving books as gifts, having access to books in the home (both youth and adult books), and engaging in discussions about texts with parents.

Roman and Pinto (2015), studied parental values and attitudes as it relates not just to reading performance, but to children’s own attitudes toward reading. Utilizing a questionnaire format, 420 participants belonging to 210 families responded to questions about family values, how time is spent reading in the home, and attitudes toward reading activities. Children varying in age from six to twelve who viewed reading as mandated and not as a free-will activity also indicated that reading time in the home mostly included homework and religious activities. Children that viewed reading as a pleasurable activity also indicated having access to a variety of reading materials in the home and they engaged in positive reading activities with their parents such as shared story time.

Attitudes toward reading in children can be linked to parental attitudes and values, however McKenna et.al, 1995 explains that children’s attitude towards reading is shaped by three factors. Normative beliefs, beliefs about reading outcomes, and reading experiences shape children’s attitudes toward reading. This model supports the idea that parent beliefs, attitudes,
and values in the home influence the developing reader in conjunction with the child’s own personal experiences with reading as they develop including ability and skill level.

**Student Attitudes Toward Reading and the Home Literacy Environment**

In a study of 18,185 students in grades one through six across 38 states, Mckenna et al., (1995) utilized the Elementary Reading Attitude Survey (McKenna & Kear, 1990) to investigate student attitudes toward recreational and academic reading with respect to age, gender, and reading ability. The results indicated that negative attitudes toward recreational were related to lower ability and increased as students got older. Additionally, negative attitudes toward academic reading were even sharper and increased with age regardless of ability. The one-way ANOVA findings revealed that this decline was steepest between grades two and three and grades four and five for academic texts. Recreational texts saw a less apparent decline over fourth and fifth grades.

Although positive parental attitudes towards reading within the home (microsystem) may influence children’s attitudes at a young age (Niklas et.al., 2020), as children develop their own reading experiences in school (mesosystem), those attitudes can change (McKenna. al, 1995). Additionally, children’s attitudes toward reading are influenced by the home literacy environment which includes the attitudes of the parents (Lee & Yeo, 2014). A study of 182 students in Malaysia revealed a positive relationship between parent reading habits and student attitudes towards reading as measured the Elementary Reading Attitude Survey (ERAS) and the Progress for International Reading Literacy Survey (PIRLS), Similarly, the findings from a study by Niklas and colleagues (2020) indicated a positive relationship between parents’ reported attitudes toward reading and their children’s verbal and linguistic skills. Utilizing a longitudinal study approach over twelve months, 133 children ages 24- 45 months, were assessed for
language development. The parents of the children were given a home literacy environment questionnaire and the responses were analyzed alongside the language development scores. Shared reading activities in the home along with positive attitudes toward reading were associated with higher achievement scores. These findings support the idea that both active and passive reading habits in the home can impact literacy for elementary-aged children within international and national contexts.

**Parental Education and the Home Literacy Environment**

Parental level of education, situated within the microsystem, can impact student achievement and overall success in school (Myrberg & Rosen, 2008). Years of parental schooling can also be linked to strong home literacy environments (Myrberg & Rosen, 2010). In a study of 10,632 students in grade 3 across 292 schools, Myrberg and Rosen studied the relationship between reading achievement and the home literacy environment with an emphasis on parent education levels. Utilizing pre-existing data from the Progress for International Reading Literacy Survey (PIRLS), an analysis between responses from the home literacy environment survey and reading achievement scores was conducted. The home literacy component of the PIRLS requires parents to select from compulsory school, two years of upper secondary, three years of upper secondary, post-secondary up to two years, post-secondary up to three years, bachelors, or masters as their education level. The findings revealed that the higher achieving students had more access to books and literacy activities in the home which correlated to higher levels of parental education. Homes with higher parent education levels also had higher numbers of books and at-home literacy activities, which correlated with higher achievement scores for children.
Christian et al., (1998) discovered similar results when studying a variety of factors that may influence early literacy skills including ethnicity, child IQ, family literacy environment, and maternal education. Their investigation, consisting of 317 five-year-old children and their mothers (n = 317), examined the correlation between maternal education level and access to books in the home. Questionnaire results were analyzed against the reading recognition and reading vocabulary sub sections of IQ tests. The results revealed that the children who scored higher had mothers with more years of formal schooling. Similarly, Kirby & Hogan (2008), discovered that maternal education level was linked to literacy achievement in first grade students. In a study including 49 students grouped into two categories (good and poor readers), a relationship between the mother’s level of education and students reading level characterization was found. Parents of the students responded to a series of questions on items such as home literacy practices and education levels via phone conference. Using a discriminate analysis, the researchers identified parents’ teaching of letters in the home and maternal education to be the unique discriminators between the two groups. The findings of these studies support the idea that parental education levels impact literacy development through strong home literacy environments and literacy exposure in the home.

**Early Exposure to Literacy and Preschool Attendance**

Preschool attendance and early exposure to literacy gives students an advantage for reading achievement in elementary school (Ansari et al., 2020; Haslip, 2018; Piasta et al., 2012). Located in both the child’s microsystem and mesosystem, preschool attendance can be a factor for future success in the area of literacy. In order to assess the predictive value of preschool attendance, Piasta et al. (2012) conducted a study on 371 children who attended preschool across 85 classrooms in Virginia and Ohio. The students were assessed on letter naming in the spring of
their preschool year and for overall literacy achievement two years later. After analyzing the data using two by two contingency matrices to generate diagnostics, the study’s results indicated that children entering Kindergarten who were able to identify the name and sound of at least 10 letters had an overall higher literacy achievement in first grade.

Further, research suggests that students who attend preschool meet benchmarks by the beginning of first grade when compared to their peers who did not attend pre-school (Haslip, 2018). In their study in a school district in Virginia, Haslip (2018) tracked the reading performance of 1,056 students in the 2012-2013 first grade cohort, specifically in the areas of fluency, spelling, and letter sounds. The students that attended preschool scored 9%-16% higher than their non-preschool attending peers.

Early literacy exposure and preschool attendance can also impact long-term literacy success in students (Valenti & Tracey, 2009). In a study of 214 students, students who attended at least one full year of preschool before entering Kindergarten had a significant advantage over their non-attending peers by outperforming them in reading by the middle of first grade (Valenti & Tracey, 2009). These findings indicate an apparent literacy advantage for students attending preschool programs prior to entering Kindergarten (Haslip, 2018). However, Ansari et al., (2020) found that continued performance relies heavily on individual learning differences and classroom experiences post Kindergarten as the long-term advantage begins to taper off. Students who attend preschool programs also have the advantage of being identified early by preschool personnel as students who may need extra support in the area literacy.

Early detection of deficiencies and gaps in literacy predict later difficulties for students in reading and reading comprehension skills (Double et al., 2019; Roberts et al., 2005). In their study on early detection of students struggling with phonics, Double et al., (2019), discovered
that students who exhibited difficulties with phonics in first grade continued to struggle with reading comprehension four years later. Students who entered school with letter and sound identification skills had a long-term advantage in reading over their peers with weaker phonics skills.

**Teacher Perception and Beliefs about Literacy**

Varying levels of experience, teacher training, and shifts in trends can influence teaching philosophy and literacy instruction. Philosophy shifts and trends in education are situated in both the child’s macrosystem and exosystem. Teachers bring their beliefs and perceptions about instruction and pedagogy into the classroom which influences their instruction and curriculum delivery (Squires & Bliss, 2004). These beliefs and attitudes toward content and curriculum can influence student outcomes and literacy achievement (Cassidy & Ortlieb, 2012).

**Literacy Trends**

Ongoing shifts in literacy instruction approaches and how it impacts teacher perception can also be linked to the phonics versus whole language debate. Opposing views of literacy instruction has been an ongoing conversation as exemplified by *The Great Debate* or *Reading Wars*, (Baumann et al., 1998). This argument includes conflicting philosophies on how children learn best (explicit phonics instruction or language immersion) and in turn, best practices for classroom instruction.

At the core of the *Reading Wars* is the debate on whether children learn to read better through meaning or through learning to break down the code of sounds through phonics drills and repetitive practice (Kim, 2008). In the 1980s, the whole language trend emerged putting literature and vocabulary at the center. Whole language is a literacy approach that places emphasis on language as a whole entity which requires an integrated approach. Instead of
focusing on isolated and explicit phonics instruction to break down letters and sounds, the whole language approach teaches decoding in context. (Pearson, 2004). As such, “[i]n whole language, children use print, grammar, and meaning to understand text” (Glavach & Pribyl, 2018, p. 47). On the other side of the debate is phonics instruction in which the sounds of letters and the blending of sounds to create words prioritized. Here, words are decoded within the text and meaning is derived from context (Pearson, 2004).

By the early 2000s, and the rollout of NCLB’s standardized testing initiative, the whole language approach was deemed outdated. This shift in instructional practices and pedagogical philosophies impacted teacher practice and perceptions about literacy instruction. In their investigation on phonics instruction in whole language classrooms, Dahl & Scharer (2000), discovered that these two approaches should not be viewed as a dichotomy, but rather approaches that can be implemented in tandem. Their study included 200 students across eight first grade classrooms in four different schools that use a whole language approach. Their observational study revealed that one third of instructional time was devoted to phonemic awareness and phonics instruction. These findings align with the balanced literacy approach which attempted to combine these two dividing philosophies.

Balanced literacy is an approach to reading instruction that joins skills-based instruction with parts of whole language with an overall emphasis on varying reading and writing activities within the learning environment (Frey et al., 2005). A varied balance of reading and writing activities, including whole class shared reading, teacher supported guided reading, and independent reading comprise a balance literacy approach. Currently, the science of reading approach is gaining momentum in the world of literacy instruction (Petcher et al., 2020). The science of reading refers to the understanding that reading is an interdisciplinary concept that
requires instruction and support in the following domains: phonics, phonemic awareness, vocabulary, fluency, and comprehension (Petcher et al., 2020).

Teacher perceptions of literacy along with vacillating trends in reading instruction can influence personal philosophy and attitudes toward student achievement (Cassidy & Ortlieb, 2012; Giles & Tunks, 2015). In order to examine teacher beliefs and trends in literacy instruction, Cassidy and Ortlieb (2012) studied the change in “what’s hot” in reading instruction over a ten-year period from 2000 to 2010. Foundational literacy instruction items including fluency and phonics were placed on the “not hot” list in 2010 while RTI, adolescent literacy, and Common Core were listed under “what’s hot.” These results indicate a shift in teacher beliefs about the value and importance of placing an emphasis on foundational reading skills over time. For example, in the year 2000, participants included items such as phonemic awareness and phonics as “hot” whereas in 2010, comprehension was labeled as “hot” in its place. In their subsequent analysis, Cassidy et al., (2020) identified digital literacy and supporting English language learners as the newest trends identified as “hot.”

Perception of these ever-changing trends can also be attributed to years of teaching experience as it aligns to specific trends of focus during their time in teacher preparation programs and early professional development. The politicized Reading Wars is an ongoing discussion about the best way to approach literacy instruction (Pearson, 2004). A teacher trained during a time where the whole language approach was considered optimal, may have differing perceptions on literacy instruction than a colleague trained during the phonics-based era.

Teaching Experience

In a study on teacher experience, perceptions, and working knowledge of literacy instruction, 76 K–2 teachers were surveyed. An analysis of a two-part survey indicated that
teachers with more than 21 years of experience did not view the value of teaching reading readiness skills, such as phonemic awareness, as critical. However, teachers with less experience emphasized the importance of attacking reading instruction through explicit phonics instruction. The researchers of this study attribute this to teacher preparation programs and the takeover of emergent literacy in the early 1990s, which resulted in a conflict of reading instruction philosophies and methodologies (Giles & Tunks, 2015).

In addition to influencing philosophies regarding reading instruction, years of experience in a singular grade level could positively impact student outcomes. In a study of 153 second grade teachers across 53 schools, a relationship was found between years of teaching experience in a consistent grade level and student achievement (Huang & Moon, 2009). Using pre-existing student achievement data in the area of reading, along with teacher surveys to collect demographic information including years of teaching experience, the researchers analyzed how years of teaching corelated to student literacy achievement using heterarchical linear modeling to examine student, teacher, and school contributions to literacy outcomes. Although no relationship was found between student reading scores and teacher credentials for total years in the classroom, teachers with at least five years in one grade level (in this case 2nd grade) yielded higher student reading scores. This study indicates that consistent teaching practices (at least five years in the same grade) influence teachers’ ability to command the content and curriculum, understand the age and grade level, and master their instructional practices.

**Teacher Self-Efficacy**

In a study on teacher self-efficacy related to phonics and reading instruction knowledge, 51 undergraduate Malaysian pre-service teachers completed a survey half-way through their teaching practicum placement. The survey investigated knowledge of phonics, satisfaction in
training, and self-efficacy in the area of reading instruction. Participants who indicated feeling secure in their phonics training had an overall higher rating of self-efficacy and instructional confidence indicating a relationship between strong training and predicted classroom success (Nicholson & McIntosh, 2020). However, when Arrow et al., (2019) investigated the relationship between teacher knowledge and self-efficacy in the area of literacy and reading in a New Zealand study of 29 teachers, results showed limited correlations between teacher knowledge and phonics training with reports of self-efficacy and classroom confidence.

In a study on teacher self-efficacy and student outcomes, Guo et al., (2012) examined the relationship between self-reported efficacy characteristics such as instructional skill, decision making, classroom management and ability to create a positive school climate for student achievement in literacy. The researchers also investigated teacher experience and education but only identified self-efficacy as directly influencing student outcomes. Teachers with higher self-efficacy created learning environments that were designed around instruction that initiated student interaction. The classrooms with increased time on academics in addition to activities that promoted student connection were run by teachers with the highest self-efficacy and had students with the highest achievement in literacy. These learning environments included collaborative discussions between teachers and students, overall feeling of warmth and connection, and consistent feedback (Guo et al., 2012). These findings suggest that teachers who self-report higher self-efficacy are the same teachers whose instruction promotes connectedness with students.

**Culturally Responsive Competencies**

The understanding and recognition of diverse family practices is situated within the child’s mesosystem as it relates to their microsystem. Implicit bias regarding gender and race as
well as not understanding the child’s home life or culture, could have a negative impact on student reading achievement (Eisensmith & Kainz, 2019; Schmidt, 2020). In an ethnographic study on student interest, Schmidt (2020) examined how nine students in Sweden engaged in literacy practices in and out of school. Through classroom and home observations, individual interviews, and group interviews, this qualitative study revealed a discrepancy between home practices and school activity. The data revealed that these students’ interests were rarely reflected within the classroom lessons and that they were less connected to the curriculum. Although the children we able to articulate interests such as digital activities and reading books in the genre of fantasy, their class assigned tasks did not reflect the interests that they shared. Additionally, despite their individual backgrounds and varying family structures, all classroom activities were the same for all. The discussion by the researcher suggests that the findings propose a need to examine classroom practices and how efficient literacy instruction should draw upon knowledge of home life and address a range of interests, and “diversity capital” (Schmidt, 2020, p. 61).

Understanding a child’s home life and building capacity for culturally responsive practices can increase classroom success for both teachers and students (Bennett, 2008). In a study on 60 pre-service teachers in Georgia, classroom discussions and papers were reviewed to reveal themes regarding understanding the socio-economic background of their students. The qualitative investigation revealed that teachers want to know about their students who come from lower socio-economic backgrounds and want to feel encouraged to ask questions despite it being a difficult topic to discuss. Furthermore, reading achievement can be linked to implicit biases.

In an investigation on the relationship between teacher perceptions of behavior and its relationship to reading achievement, Eisensmith and Kainz (2019) revealed that teachers’ report of student attention was a strong predictor for reading performance, specifically when
categorized by race. Teachers from 1,319 schools completed a six-item attention rating scale that was compared to the achievement data retrieved from the 2011 public access file of the Early Childhood Longitudinal Study. Black and Hispanic students were rated as having lower attention which were correlated with lower reading scores. The researchers discuss these results as indicators to increase training in culturally responsive pedagogy and instructional practices in order to directly address the specific needs of Black and Hispanic students.
Summary

The COVID-19 school closures, which caused a disruption in school activity and academic instruction, may have compounded an already existing problem. The reading achievement gap for struggling readers who fail to meet grade level benchmarks may have been widened during the pandemic. Teacher training, teacher self-efficacy, culturally responsive practices, the home literacy environment, parental education, parent and student attitudes toward literacy, and early exposure to literacy, including preschool attendance are contributing factors to literacy achievement. The switch to virtual learning during the COVID-19 pandemic, may have highlighted and heightened the reading achievement gap between students from low SES backgrounds and their more affluent peers. Early research and reports suggest predictions of academic deficits resulting from the COVID-19 pandemic (United States Senate, 2022). While predictive studies indicated that the pandemic would widen the achievement gap between low and high SES students, recent studies have not definitively made this determination. However, recent studies do reveal declines in literacy performance within primary grades (Renaissance Learning, 2022). In a study on 4.6 million U.S. students in grades K–12 who completed STAR assessments, a decline in reading proficiency was detected in all grade levels with the largest declines noted in primary grades. However, in mathematics, the declines were consistent across all grade levels. These early findings suggest that longitudinal research on the impact of the COVID-19 pandemic on literacy outcomes must continue.

Figure 1 represents the contributing factors examined within this chapter, their associations, and how they may impact literacy achievement post COVID-19 school closures. In order to better understand the contributing factors related to this problem, a needs assessment study will examine student achievement in literacy before and after the COVID-19 school
closures in addition to the exploration of the potential contributing factors described in this chapter.

**Figure 1**

*Potential Contributing Factors to Literacy Loss Post COVID-19 School Closures*

Considering how the global pandemic caused schools to close and students to pivot to virtual instruction while being immersed in their home literacy environments, further investigation is warranted. The needs assessment study in chapter 2 will investigate how factors such as preschool attendance, the home literacy environment, and teacher perceptions about reading achievement may have contributed to student achievement in the area of literacy given the school closures in 2020.
Chapter 2

Needs Assessment

The needs assessment described in this chapter investigated literacy achievement related to the COVID-19 pandemic school closures. After examining related factors that may contribute to the achievement gap in Chapter 1, the factors of influence explored by the needs assessment include literacy achievement, the home literacy environment, and teacher perceptions on literacy instruction and student achievement.

Considering that students have historically performed poorly during or after historical events (Gershenson & Tekin, 2018), literacy achievement was examined prior to and after the COVID-19 school closures. Additionally, the home literacy environment was examined due to its impact on reading achievement (Roberts et al., 2005) and its potential role during quarantine. Finally, teacher perceptions and beliefs about literacy instruction and student performance during were examined as research indicates that teacher beliefs and perceptions can have an impact on student achievement (Cassidy & Ortlieb, 2012; Giles & Tunks, 2015). This investigation served to provide insight into the degree of learning loss and potential contributing factors as a result of the COVID-19 school closures.

Context of the Study

This needs assessment was conducted in a suburban school located 26.5 miles from New York City. The district serves a population of approximately 15,000 residents across three communities. The district includes four school buildings. A total of 1,712 students (n = 912 males and n = 806 females) were enrolled at the time of the study. These students were educated across four school buildings including the primary (kindergarten through second grade, n = 368), intermediate (third through fifth grade, n = 379), middle (sixth through eighth grade, n = 415),
and high (ninth through twelfth grade, n = 550) schools. The district does not have a preschool program.

Within the district, 47% of the students qualify for free or reduced lunch based on household income. Three out of the four buildings within the district are Title 1 schools. Student racial demographics include 46% Black, 42% White, 4% multiracial, 1% American Indian/Alaskan Native, and less than 1% Pacific Islander. Additionally, 28% of students selected Hispanic as their ethnicity in addition to race upon enrollment. The high school graduation rate is 93%.

The needs assessment was conducted at Grace School (pseudonym), an intermediate school within the district. Grace School serves 379 students in grades three through five. Within the school, 33% qualify for free or reduced lunch and 62% qualify for transportation services because they reside eight tenths of a mile or more away from the school building.

**Statement of the Purpose**

The purpose of this study is to explore how several factors may have influenced the already existing literacy gaps amongst elementary school children during the COVID-19 pandemic school closures from March–June 2020. During this time, students were learning from home, teachers were required to shift their instructional practices, and academic disruptions occurred. This study is an opportunity to gain insight into how these sudden changes may have affected literacy achievement and the factors that may have exacerbated the reading achievement gap. Areas of investigation and inquiry included student literacy achievement, the home literacy environment, and teacher perceptions of literacy performance pre and post COVID-19 school closures.
Research Questions

This needs assessment was designed to answer four research questions.

Q1: To what extent did the COVID-19 school closures influence third grade students’ reading achievement?

Q2: What was the extent of change in the number of students requiring intervention services as per Response to Intervention (RTI) before and after the COVID-19 school closure?

Q3: What were the home literacy behaviors of the participant sample?

Q4: What were teachers’ perceptions of third grade literacy and instruction during the 2020–2021 school year?

Method

In order to investigate the four research questions, data collection for the study included three distinct measures for three different participant groups. The Renaissance Learning STAR Reading test which is administered three times per year to all students within the context, served as a source for student achievement data. A parent survey on home literacy practices adapted from the Progress on International Reading Literacy Study (PIRLS) was administered to parent participants in order to gather information about the home literacy environment. Lastly, teacher interviews were conducted to explore teacher perceptions regarding literacy achievement after the COVID-19 school closures.

Research Design

The mixed methods research paradigm was used to gather data on student achievement, home literacy practices, and teacher perception. The strength of mixed methods research is that qualitative and quantitative data inform and enhance each other (Creswell & Plano Clark, 2018). In order to gain access to the big picture on how students’ literacy achievement and how teachers
perceive their literacy performance, both quantitative and qualitative data were collected to explore the research questions. Qualitative and quantitative data from reading an achievement test, parent survey, and teacher interviews were selected. Utilizing this approach provided an opportunity to fully examine the questions and draw conclusions based on the variety of data sets (Lochmiller & Lester, 2017).

A convergent parallel mixed methods design (Creswell & Plano Clark, 2018) was selected for distinct reasons. The quantitative and qualitative data were collected concurrently. Furthermore, the achievement data, parent survey, and teacher interviews were first analyzed independently, and then merged and interpreted through comparisons across the datasets.

**Participants**

Participants for the needs assessment included third grade students, third grade parents, and third grade teachers during the 2020–2021 school year. Student achievement, parent feedback, and teacher perspectives were collected via three individual instruments. Although the three participant groups were distinct, they were connected to each other within the context of third grade. The parents of the third students were surveyed and the educators of these students were interviewed.

**Students**

The third-grade cohort was selected as a result of district structure. All students within the context attend a primary school from kindergarten through second grade followed by three consecutive years at the intermediate school for third through fifth grade. Although the transition from second to third grade may offer some additional concerns for literacy regression or gaps, the stable enrollment in one school for the remainder of this study was an intentional choice.
Additionally, accessibility to this third-grade cohort will be available to the researcher as the building’s school principal.

Table 2

2020–2021 Third-Grade Demographics

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
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<tr>
<td>White</td>
<td>47</td>
<td>63</td>
</tr>
<tr>
<td>Black</td>
<td>39</td>
<td>52</td>
</tr>
<tr>
<td>Asian</td>
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<td>13</td>
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<tr>
<td>Multiracial</td>
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<td>3</td>
</tr>
<tr>
<td>Pacific Islander</td>
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<td>1</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ethnicity</td>
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</tr>
<tr>
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<td></td>
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<td>70</td>
</tr>
<tr>
<td>Female</td>
<td>47</td>
<td>63</td>
</tr>
<tr>
<td>Students with a disability</td>
<td>8</td>
<td>11</td>
</tr>
</tbody>
</table>

Note. Students have the option of selecting Hispanic upon district enrollment in addition to their selected race.

Table 2 shows the demographic characteristics of the third-grade cohort. A total of 133 third-grade students (n = 70 males, n = 63 females) were enrolled during the time of data collection. According to the district’s student information system the racial representation of the 2020–2021 third-grade cohort was 47% (n = 63) white, 39% (n = 52) Black, 10% (n = 13) Asian, 2% (n = 3) multiracial, 1% (n = 1) Pacific Islander, and 1% (n = 1) American Indian/Alaskan Native. Additionally, 28% (n = 37) of the third-grade class selected Hispanic as their ethnicity when they enrolled in the district. Eleven students with disabilities, who are not cognitively impaired, are included in the sample.
Parents and Guardians

All parents of the 2020–2021 third-grade cohort were invited to participate in the needs assessment. An email invitation was sent to all 166 parent emails that were registered in the district for this cohort at the time of the study. The participant response rate was 38% (n = 63). The third-grade parent cohort of the 2020–2021 school year is comprised of parents and legal guardians of students who were enrolled in third grade at the time of the study. The parent and guardian participant group included parents and guardians with at least one child enrolled in third grade. It is also important to note that the third-grade cohort of the 2020–2021 school year has two sets of twins.

Teachers

Third-grade teachers were selected to participate to understand their perceptions regarding the third-grade achievement in the area of literacy. Since the third-grade cohort was selected for both the student and parent participant groups, the third-grade teachers were selected for alignment and cohesion. Eleven third grade teachers were invited to participate in the needs assessment. A total of ten teachers agreed to participate. The all-white, all-female teacher participant group included two reading specialists, two special education teachers, and six general education teachers. One of the reading specialists was assigned to teach a third-grade class for the 2020–2021 school year as a result of a temporary increase in class sections in order to reduce class sizes and maintain a six-foot distance between students as per New York State guidelines (NYSED, 2020) (Table 3). Additionally, one third-grade teacher was assigned to a fully virtual class for the duration of the school year. One special education teacher was assigned to the small class, and one to the integrated co-teaching class (ICT). Years of elementary
teaching experience at the time of study ranged from 1 year to 36 years (M = 13.6 years). Years of third grade teaching experience ranged from 1 to 11 years (M = 4.3 years).

Table 3

2020–2021 Teacher Experience and Assignment

<table>
<thead>
<tr>
<th>Total Years of Teaching Experience</th>
<th>Years of Third Grade Experience</th>
<th>Teaching Title</th>
<th>Teaching Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher 1</td>
<td>8</td>
<td>Elementary</td>
<td>Third grade class</td>
</tr>
<tr>
<td>Teacher 2</td>
<td>15</td>
<td>Elementary</td>
<td>Third grade class</td>
</tr>
<tr>
<td>Teacher 3</td>
<td>8</td>
<td>Literacy</td>
<td>Third grade class</td>
</tr>
<tr>
<td>Teacher 4</td>
<td>25</td>
<td>Literacy</td>
<td>Literacy specialist</td>
</tr>
<tr>
<td>Teacher 5</td>
<td>22</td>
<td>Elementary</td>
<td>Third grade class</td>
</tr>
<tr>
<td>Teacher 6</td>
<td>9</td>
<td>Elementary</td>
<td>Third grade class</td>
</tr>
<tr>
<td>Teacher 7</td>
<td>9</td>
<td>Special education</td>
<td>Third grade ICT class</td>
</tr>
<tr>
<td>Teacher 8</td>
<td>1</td>
<td>Elementary</td>
<td>Third grade class</td>
</tr>
<tr>
<td>Teacher 9</td>
<td>36</td>
<td>Special education</td>
<td>Special education small class</td>
</tr>
<tr>
<td>Teacher 10</td>
<td>3</td>
<td>Elementary</td>
<td>Third grade virtual class</td>
</tr>
</tbody>
</table>

Data Collection Tools

Three individual data collection tools were used during the study. The STAR reading assessment was used to evaluate reading achievement. The Progress in International Reading Literacy Study (PIRLS) home survey was used to collect information about home literacy activities. Teacher interviews were conducted to investigate teacher perceptions and observations regarding literacy performance in the classroom.
**STAR Reading Assessment**

Student reading performance was measured using preexisting deidentified data from the Renaissance Learning STAR assessment (2021). The STAR assessment is a 34-question comprehensive online reading test that measures multiple reading skills. This computer-based tests adapts to the students’ responses. When a student answers a question, the test adjusts the subsequent questions to be easier or more difficult resulting in a variety of test scores. Tests results include scaled scores (0–1400 range), percentile ranking, grade equivalency, instructional reading level, and growth scores (Renaissance Learning, 2021). The United States Department of Education National Center on Intense Intervention (NCII) and the National Center on Response Intervention (NCRTI) rate STAR assessments as highly effective for literacy screening and monitoring of reading progress (Department of Education, 2020; NCRTI, 2020). STAR Reading has a test re-test reliability coefficient of .95 (Renaissance Learning, 2020) (see Appendix A).

Students within the context of this study are tested three times per year to assess progress and identify needs in the area of reading and literacy. Students are tested annually in September, January, and May. Special education students are tested monthly, and students identified as struggling readers and in need of intervention are tested every ten weeks in order to monitor progress. STAR reading is administered to all students in the district beginning in first grade. Prior to first grade, students are tested on the Renaissance Learning Early Literacy test which includes audio and early literacy test items such as concepts of print and letter and sound identification.

**Progress in International Reading Literacy Study (PIRLS) Home Literacy Survey**

The home literacy subsection of the Progress in International Reading Literacy Study (PIRLS) was administered to parent participants (PIRLS, 2016). This measure was selected
specifically for this study on third grade literacy as it is used to analyze the progress in literacy on the fourth-grade level globally. The PIRLS includes multiple components to assess literacy development including written comprehension tests and questionnaires focusing on the home and school literacy environments. Participating countries administer the PIRLS every four years to fourth grade students. The National Center for Education Statistics (NCES) is responsible for administration in the United States. All questionnaires are reviewed by the Questionnaire Item Review Committee (QIRC) which is comprised of representatives from the National Research Coordinators (NRC). All survey items are field tested and reviewed by the committee (NCES, 2021). The PIRLS is administered every five years to fourth grade students in participating schools in 36 education systems across the globe since 2001. The family questionnaire, specifically the home literacy activities subtest, was utilized in this study. The 10 questions include inquiry about number of books in the home, number of devices in the home, parent reading habits and perceptions, and languages spoken using a 4-point Likert scale including agree a lot, agree a little, disagree a little, or disagree a lot to several statements. The 2016 parent survey scale has a Cronbach Alpha reliability coefficient range of 0.7–0.9 depending on country, with the United States at .90 (NCES, 2021) (see Appendix B). The subtest was adapted for this needs assessment to include a yes or no question regarding preschool attendance. Parents were asked to indicate if their current third grade child attended any formal preschool prior to entering kindergarten (see Appendix C).

**Teacher Interviews**

Virtual interviews were conducted to obtain information regarding teacher perceptions of literacy achievement for the 2020–2021 school year. Five interview questions were designed to elicit responses from participants to provide qualitative data on what the teachers have noticed
about literacy achievement and literacy instruction. The questions aimed to understand teachers’ perceptions on students’ literacy performance prior to and up to the start of the school year and to what they attributed the differences. Example questions included, “Did you see a difference in your third-grade students’ literacy skills at the start of this school year?” and “Why do you think you are seeing these differences and changes?”

Procedure

Procedures for recruiting participants and collecting data varied. All participant recruitment and instrumentation administration were conducted in accordance with prior approval from the Johns Hopkins University Instructional Review Board (IRB). In addition, district approval was also granted.

STAR Reading Assessment

Administration of the STAR assessment test occurred prior to this study. A district administrator with privileged access to all student scores and data retrieved the tests results and de-identified the data prior to the data analysis procedure.

Home Literacy Survey (PIRLS)

An invitation to participate in the parent survey was sent to all registered email addresses of third grade students. The letter indicated that participation was optional, but much appreciated (see Appendix C). A brief description of the purpose of the study was included in the email along will a link that brought willing participants directly to the survey page. A generic email was sent two weeks later which included the original letter with the link for any parent that still wanted to participate. A final request and thank you was sent on the final full day of the school year.
Teacher Interviews

Teacher interviews were conducted virtually in accordance with the Johns Hopkins University guidelines for COVID-19 health and safety. An invitation to participate was sent to all 11 third grade teachers within the district. A brief description of the purpose along with the indication that participation was optional was included. One follow-up email was sent after the initial four volunteers responded. The second email reminded the teachers that although their participation was optional, it would be helpful and valuable. Teachers were informed that they would be provided with class coverage and would not have to give up their prep time to participate. Ten teachers agreed to participate in the interviews. The participants were emailed a schedule with an attachment of the John Hopkins Informed Consent Form for review. Teacher participants were instructed to join virtually with their camera in off-mode on Webex, which is the video conferencing tool used by the district. Verbal consent was received to record the interview sessions along with verbal consent of review and agreement with the written consent form. All participants were asked the same questions in the same order and were encouraged to elaborate whenever possible.

Participant Selection Process

Participants were recruited and selected with approval from the school district and the Johns Hopkins University Instruction Review Board. The proposal was submitted to include details regarding data collection, instrumentation, and methods of communication. Local approval was granted by the district superintendent via written consent (see Appendix D). University approval was granted via email after review.
Data Collection Methods

Each set of data was collected individually within a four-week period during the last month of June of the 2020–2021 school year. Methods for collecting achievement data included accessing existing student achievement scores for the current school year as well as scores from previous cohorts from previous years. Parent survey data was collected digitally via email and online responses, and teacher interviews were conducted and recorded with permission via a video conferencing platform.

STAR Reading Assessments

STAR scores for the 2020–2021 third-grade cohort from Fall 2019 (start of second grade) and Fall 2020 (start of third grade) were isolated for analysis. Scores were grouped into four categories which correlated to their scaled score and percentile ranking. The categories of urgent intervention, intervention, on watch, and at or above benchmark are nationally normed groupings based on student percentile ranking established by Renaissance learning. According to STAR, students who have a percentile ranking of 10 or below are identified as urgent intervention. Students who have a percentile ranking of 10 to 24 are identified as intervention. Students who have a percentile ranking of 25–39 are identified as on watch. Students who have a percentile ranking of 40 or higher are identified as at or above benchmark (see Appendix F) (Table 4). Additionally, third grade fall testing scores from 2016 to 2020 were retrieved in order to examine how third grade students within this context typically perform in the fall.
Table 4

*Intervention Categories by Percentile*

<table>
<thead>
<tr>
<th>Percentile Rank Range</th>
<th>Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgent Intervention</td>
<td>10 or below</td>
</tr>
<tr>
<td>Intervention</td>
<td>10–24</td>
</tr>
<tr>
<td>On Watch</td>
<td>25–39</td>
</tr>
<tr>
<td>At or Above Benchmark</td>
<td>40 or above</td>
</tr>
</tbody>
</table>

*Home Literacy Survey (PIRLS)*

At the close of the survey, which aligned with the last day of school, all 63 survey responses were uploaded to Microsoft Excel. Survey items were sorted for individual review and the Likert scale responses were isolated for analysis using the PIRLS scales available on the NCES website. Responses were sorted into columns via Microsoft Forms Excel spreadsheet export.

*Teacher Interviews*

Teacher interviews were conducted virtually during teacher prep periods during the month of June 2021 using the Webex video conferencing platform. After the interviews were conducted, the audio recordings were transcribed to text using Sonix, a digital application designed specifically for Webex recordings. The transcribed text was then organized in Excel in order to identify commonalities and themes among the responses. Responses were coded into categories such as areas of concern at the start of the year, perceived reasons for decline at the start of the year, and perceived reasons for growth during the school year. Recurring items and responses were color coded to highlight frequency and repetition.
Data Analysis

Each data set went through an individual analysis based on its qualitative or quantitative nature. The measurements provided a variety of data sets to be reviewed for analysis and to serve as the basis for this chapter’s findings and discussion section.

The student performance data along with the home literacy survey results and teacher interview responses were examined for potential patterns, implications, convergence or divergence.

Star Reading Assessments

After the STAR scores were categorized as described in the data collection methods section, an analysis of student performance was conducted. The mean percentages for each of the performance categories were calculated in order to compare the achievement of the 2020–2021 third grade students with previous third grade cohorts who did not experience the COVID-19 pandemic and school closures of 2020.

Home Literacy Survey (PIRLS)

All 63 survey responses were imported to Microsoft Excel for analysis and review. Parent responses for number of books in the home, number of children’s books in the home, and number of digital devices were calculated. Parent responses for literacy practices and attitudes toward reading were analyzed for repetition and common responses.

Teacher Interviews

The teacher responses were coded and categorized for common themes and recurring responses (Creswell & Plano-Clark, 2018). Emergent coding was utilized due to the exploratory nature of the needs assessment. The responses were scanned for common ideas and recurring terms were identified (Saldana, 2015). For example, key terms such as fluency, phonics, and
comprehension were flagged for repetition across respondents as areas of weakness. Words such as pandemic, closure, and COVID were marked as common ideas shared to describe the perceived reason for students entering the school year with weak skills. Descriptions of small class size, small group instruction, and meeting the students’ needs were compared and analyzed for repetition and similarity.

To be transparent and reflective about potential biases, it is important to consider the role of the researcher within this context. Participants may have felt a sense of obligation to participate or provide responses that reflected positively on themselves since the researcher was also the building principal. In order to mitigate these biases or tendencies, parent and teacher participants were informed about the optional nature of the study and that they were under no obligation to participate. Parents who responded may have felt that it was their opportunity to show gratitude or to showcase that they value literacy in the home which may have influenced parent responses. Teachers were reminded throughout the interview process that their responses would in no way be reflected in their evaluations and that their answers would be kept strictly confidential and anonymous. A conscious effort to recognize positionality and potential power dynamics was made by the researcher throughout the interview and data collection process (Lincoln & Guba, 1985).

**Mixed Methods Analysis**

A mixed analysis was conducted by examining student achievement scores and how they relate to the teachers’ perceptions of student achievement. Additionally, parent responses about the home literacy environment were utilized to inform potential trends in the data. Existing STAR data for the 2020–2021 school year was retrieved along with prior data from the participating cohort and six cohorts dating back to 2016. The achievement scores were then
compared to the teacher reports that were collected during the interviews to assess if the perception of student achievement aligned with the achievement data. The survey results were then examined to provide insight as to why there may have been a convergence or divergence between the qualitative achievement scores and the qualitative teacher feedback. The researcher developed a theme to capture the mixed findings.

**Findings and Discussion**

The data collected in this needs assessment provides a host of information worthy of discussion and further review. The research questions posed in Chapter 1 will serve as an outline for this discussion and review of findings.

**Q1: To what extent did the COVID-19 school closures influence third grade students’ reading achievement?**

The STAR data indicates that the 2020–2021 cohort performed better at the start of third grade than they did at the start of second grade, one year prior to the COVID-19 school closures. As indicated in Table 5, at the start of second grade (2019–2020), 38% of the cohort was categorized at or above benchmark, whereas 59% fell into the same category the following year (2020–2021). The data also indicates 24% less students were labeled as on watch or intervention during the fall 2019 administration as compared to the fall 2020 testing. However, at the start of the 2020–2021 school year, 11% of the cohort was placed in the intervention category whereas one year prior, no students were labeled as such. This could be a result of a drop in the urgent intervention indicating that these students still need support, just not as severe. According to the scores, the students performed better after the closure than before the pandemic.
Table 5

**Fall STAR Scores Grade 3 cohort of 2020–2021**

<table>
<thead>
<tr>
<th>Percentile Range</th>
<th>Fall 2019, 2nd Grade (n = 109)</th>
<th>Fall 2020, 3rd Grade (n = 124)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgent Intervention</td>
<td>10 or below</td>
<td>41 (38%)</td>
</tr>
<tr>
<td>Intervention</td>
<td>10–24</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>On Watch</td>
<td>25–39</td>
<td>27 (24%)</td>
</tr>
<tr>
<td>At or Above Benchmark</td>
<td>40 or above</td>
<td>41 (38%)</td>
</tr>
<tr>
<td>Total</td>
<td>109 (100%)</td>
<td>124 (100%)</td>
</tr>
</tbody>
</table>

Q2: **What was the extent of change in the number of students requiring intervention services as per Response to Intervention (RtI) before and after the COVID-19 school closure?**

The comparison between 2016–2019 and 2020 reveals that the fall 2020 third-grade cohort required less support and RtI interventions than previous third grade cohorts (Table 6). In Fall of 2020, 25% of the cohort qualified for RtI services by falling into the categories of intervention and urgent intervention. This is one percentage point less than the 2016 cohort, and eleven percentage points less than 2017 cohort. The mean percentage of both the on watch and intervention categories were slightly higher in 2016–2019 as compared to the 2020–2021 cohort. Further, at the start of the 2020–2021 school year, 59% of the third-grade students were performing at or above grade level. The mean percentage of students performing at or above grade level over the four previous years at the start of third grade was 54% (Table7).
Table 6

Fall STAR Scores Grade 3 Performance 2016–2020

<table>
<thead>
<tr>
<th>Percentile Rank Range</th>
<th>Fall 2016, 3rd Grade (n = 118)</th>
<th>Fall 2017, 3rd Grade (n = 110)</th>
<th>Fall 2018, 3rd Grade (n = 95)</th>
<th>Fall 2019, 3rd Grade (n = 124)</th>
<th>Fall 2020, 3rd Grade (n = 124)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgent Intervention</td>
<td>10 or below</td>
<td>8%</td>
<td>14%</td>
<td>9%</td>
<td>19%</td>
</tr>
<tr>
<td>Intervention</td>
<td>10–24</td>
<td>18%</td>
<td>22%</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>On Watch</td>
<td>25–39</td>
<td>23%</td>
<td>19%</td>
<td>14%</td>
<td>17%</td>
</tr>
<tr>
<td>At or Above Benchmark</td>
<td>40 or above</td>
<td>52%</td>
<td>45%</td>
<td>67%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Table 7

Mean Fall STAR Scores Grade 3 Performance 2016–2020

<table>
<thead>
<tr>
<th>Percentile Rank Range</th>
<th>Fall 2016–2019, Mean 3rd Grade (n = 447)</th>
<th>Fall 2020, 3rd Grade (n = 124)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgent Intervention</td>
<td>10 or below</td>
<td>13% (n = 58)</td>
</tr>
<tr>
<td>Intervention</td>
<td>10–24</td>
<td>16% (n = 72)</td>
</tr>
<tr>
<td>On Watch</td>
<td>25–39</td>
<td>18% (n = 80)</td>
</tr>
<tr>
<td>At or Above Benchmark</td>
<td>40 or above</td>
<td>54% (n = 241)</td>
</tr>
</tbody>
</table>

According to previous research on school closures and student achievement during crisis, a drop in student scores is to be expected (Wyse et al., 2020). However, STAR scores from Fall 2020 revealed that a higher percentage of students performed at or above grade level, despite the school closure. When looking at how the 2020 third grade cohort performed at the start of second
grade there was a 24% decline in the urgent intervention category after the school closure. Although these results may be higher than expected, there are several potential reasons and items to consider.

During the school closure of 2020, students were engaged in online learning and maintained a connection with their teachers. Preexisting relationships between students and teachers can mitigate disruptions and learning loss during crisis (Braunack-Mayer et al., 2013). Even though the daily experience was different from in-person instruction, the students and teachers had already established relationships prior to the closure. Furthermore, the closure occurred in March which is seven months into a ten-month school year. Hansen (2011) studied school interruptions as a result of inclement weather closures and its impact on student achievement. The findings imply that schools in states with less interruptions perform better on state exams which could have implications for this study. Consistent school for seven months without snow days or weather-related interruptions prior to the COVID-19 school closure may have allowed sufficient learning to occur with little to no anticipated loss. Additionally, the home literacy practices during the closure may have positively influenced the reading skills of this cohort (Tichnor-Wagner et al., 2016).

**Q3: What are the home literacy behaviors of the participant sample?**

The parent participants indicated that they have a substantial number of books in the home including both children’s and non-children’s books. Twenty-one (34%) participants reported owning 26–100 books, and thirty-seven (58%) participants reported the same number range of children’s books (Table 8). All (n = 63) parents who completed the survey indicated having at least one digital device in the home and only two participants indicated that their child had not attended a preschool program prior to entering Kindergarten. Further, 100% of all
participants indicated having at least one non-school issued digital information device in the home including a computer, and only eight participants (13%) reported not having a digital eReader in the home. Six parents (10%) reported spending less than one hour a week reading, while 35 (56%) indicated that they spend one to five hours a week reading at home (Table 9). Twenty-five (40%) participants said they read for enjoyment everyday while n = 11 (17%) reported never or almost never reading for pleasure. The survey results also showed that all students had access to books and digital devices, an indication of a rich home literacy environment that could have positively influenced reading achievement (Van Bergen et al., 2017). Additionally, all but two students included in this data set attended preschool prior to entering kindergarten which could positively influence literacy achievement over time (Valenti & Tracey, 2009).

Table 8

| PIRLS Literacy in the Home Parent Survey: Number of Book in the Home (n = 63) |
|----------------------------------------|--------|--------|--------|--------|--------|
| Books                                  | 0–10 (n = 8) | 11–25 (n = 9) | 26–100 (n = 21) | 101–200 (n = 14) | More than 200 (n = 10) |
| Children’s Books                       | 5% (n = 3) | 12% (n = 8) | 58% (n = 37) | 13% (n = 8) | 12% (n = 8) |

It is important to note that the survey responses represent 39% of the total 166 invitations that were sent. The profile of the respondents is likely to include willingness to share information about their home life and feelings of connection to the school. Parents may have felt that they were giving back to the school in some way by participating in the optional and anonymous survey. Additionally, respondents needed to have the time to respond along with the technology and language skill capacity, potentially excluding some participants or subgroups.
Table 9

PIRLS Literacy in the Home Parent Survey: Parent Reading Habits (n = 63)

<table>
<thead>
<tr>
<th></th>
<th>n = 63</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time spent reading for information</strong></td>
<td></td>
</tr>
<tr>
<td>Less than one hour</td>
<td>6 (10%)</td>
</tr>
<tr>
<td>1–5 hours</td>
<td>35 (56%)</td>
</tr>
<tr>
<td>6–10 hours</td>
<td>12 (19%)</td>
</tr>
<tr>
<td>More than 10 hours</td>
<td>10 (15%)</td>
</tr>
<tr>
<td><strong>Time spent reading for enjoyment</strong></td>
<td></td>
</tr>
<tr>
<td>Never or almost never</td>
<td>11 (17%)</td>
</tr>
<tr>
<td>Once or twice a month</td>
<td>7 (11%)</td>
</tr>
<tr>
<td>Once or twice a week</td>
<td>20 (32%)</td>
</tr>
<tr>
<td>Every day or almost every day</td>
<td>25 (40%)</td>
</tr>
</tbody>
</table>

Q4: What are teachers’ perceptions of third grade literacy and instruction during the 2020–2021 school year?

The teacher interview responses were coded and categorized for common themes and recurring responses. Using emergent coding, key terms such as fluency, phonics, and comprehension were common across respondents as areas of weakness. Words such as pandemic, closure, and COVID were marked as common ideas shared to describe the perceived reason for students entering the school year with weak skills. Descriptions of small class size, small group instruction, and meeting the students’ needs were compared and analyzed for repetition and similarity (Miles et al., 2014).
Three themes emerged from the data analysis of the teacher interview responses. *Skill decline, academic interruptions,* and *teacher connectedness* captured the commonalities of the codes regarding third grade literacy performance during the 2020–2021 school year. The themes and codes are presented below.

**Skill Decline**

The teachers indicated that they saw a decline in academic performance in the area of literacy at the start of the 2020 school year. Codes such as fluency, phonics, decoding, and comprehension were used to describe areas of weakness perceived by teachers. For example, one teacher stated, “Normally I would have kids a little more fluent” (Teacher A, personal communication, June 2021), while another said, “Their phonics and their ability to sound out words is kind of lacking” (Teacher B, personal communication, June 2021). These responses indicate that teachers saw a decline in skills at the start of the school year and that they perceived an academic decline amongst their students.

**Academic Interruptions**

When asked to describe why they saw a decline in literacy skills at the start of the 2020–2021 school year, the emerging theme was academic interruptions. The participants attributed codes such as *school closure, the pandemic,* and *virtual instruction* as direct influencing factors for the perceived deficiencies in the literacy skills identified above. For example, one teacher stated, “I do believe that a lot of it can have to do with COVID and being virtual for parts of last year,” and “I definitely think the you know, the whole pandemic has a huge, huge role in it. The students hadn't been in class since March of last year and we all know that virtual learning is not the same as in-person learning” (Teacher C, personal communication, June 2021). These responses indicate that the teachers attributed the perceived skill decline to the academic
interruptions and school closure which was predicted to negatively impact student learning (Wyse et al., 2020).

**Teacher Connectedness**

Teachers attributed annual growth to teacher connectedness and the ability to meet the needs of students. Smaller class sizes, designed to meet social distancing guidelines, included a maximum of 17 students. Teachers reported that reduction in class sizes, increase in small group instruction, and the ability to provide individual attention based on student need provided opportunities to reach more students. For example, teachers stated, “Definitely one reason is class size, we have a lot less students, so I can focus more on specific students,” and “We had such a unique opportunity this year. It was almost as if we were working in a small group all year. My enrollment was 16 (students)” (Teacher D, personal communication, June 2021). The recurring theme for perceived growth was a result of the smaller rosters and deeper connections as evidenced by the participant quotes; “We had about 15 to 16 kids throughout the year, so I'm obviously a little more able to meet with all of them more regularly. And I’m able to pinpoint a little bit more what they need” (Teacher B, personal communication, June 2021).

**Merged Findings**

The merged findings are captured by the theme, discrepancy between actual and perceived learning loss. Teachers perceived students entered third grade with weaker reading and literacy skills than previous years. For example, teachers stated; “I would say that overall, their levels were lower than we have had in the previous years” (Teacher D, personal communication, June 2021), and “There was definitely a big difference in their skills coming in this year. I felt that we had to catch them up a lot” (Teacher E, personal communication, June 2021). However, the achievement data revealed otherwise. Students performed similarly and slightly better than
previous third grade cohorts (4% above the mean of all five cohorts). The discrepancy between the lack of literacy loss as determined by achievement scores and the perceived learning loss by teachers could be attributed to assumptions and negative expectations about how students would perform after a school closure and during a pandemic. According to a study on perception and mental health by Lizana and colleagues (2021), the COVID-19 pandemic has increased stress, feelings of burnout, exhaustion, and cynicism amongst teachers. Therefore, the negative perception of performance may have been influenced by these feelings along with the assumptions and predictions made by most educational publications and online resources (Haeck & Lefebvre, 2020; Wyse et al., 2020).

Teacher efficacy and perceptions about their own instructional impact during the closure may have also influenced teacher perceptions about student performance at the start of the year. In a study on how teachers view their own adjustment to online learning in relation to how they perceive their students’ ability to cope, it was revealed that teachers who lacked confidence in their own instructional efficacy through the closure, assumed their students were struggling to cope as well (Jelińska & Paradowski, 2021). As such, factors such as increased stress, assumed learning loss, and transference of teachers’ own feelings of inadequacy during the pandemic may have influenced teacher perceptions of student performance at the start of the 2020–2021 school year.

A bias toward formal learning in a structured setting may have also influenced teachers’ perceptions about achievement after the school closures. Formal learning or formal education is defined as traditional in-school structured instruction (Schugurensky, 2000) and was interrupted by COVID-19. Informal learning occurs outside of the traditional school setting and acquisition of knowledge is obtained through experiences and real-life application (Smith, 2019). During the
closures as a result of the pandemic, students were engaging in a variety of informal learning experiences at home which may have resulted in the lack of skill decline indicated in the STAR data. Further, students likely engaged in family culture activities, such as cooking, shared dinnertime, and family discussions about values which offered informal learning opportunities (Serpell et al., 2002).

Bourke et al., (2021) conducted a research study on the informal learning practices of children in New Zealand during the COVID-19 school closures. They interviewed 178 children in grades four through eight attending 10 schools and also asked the participants to create artwork in the form of collages depicting their experiences in quarantine. Common shared experiences included house chores, exercise, eating with family, watching and creating digital content, and an overall change in learning routine. The interviews revealed that children expressed enjoying the informal experiences as it related to their interests and provided opportunities for autonomy.

While these opportunities occurred, teachers’ attitudes toward student learning can prioritize formal instead of informal learning opportunities (Johnson & Chandler, 2009). In their investigation on teacher attitudes toward informal learning, Johnson & Chandler designed a study which included pre-service teachers enrolled in a secondary math methods course. After taking the students on a virtual field trip, they were charged with designing a mathematics lesson plan that involved authentic and informal learning. After completing the task, the pre-service teachers were interviewed about their attitudes toward designing an informal learning experience. Although most teachers agreed that there were advantages such as real-world application and opportunities for engagement, they also expressed concerns about planning informal learning experiences. Distractions in an informal setting, too many stimuli, and the
concern over the inability for students to stay on task were among the responses. The findings reveal that while teachers valued informal experiences, they were not of high value.

In a socio-cultural study by Guzman-Simon et al. (2018), perceptions of literacy learning were examined with 1354 students, 1020 parents, and 96 teachers in Costa Rica. Utilizing questionnaires administered to all three participant groups, the researchers gathered self-reported data regarding individual perceptions on how reading is learned and where it is learned. Analysis of the results indicated that parents perceive early literacy to be developed in the home but continues in school and that reading is associated with the school setting. Students reported that reading happens in both the home and school environments. However, teachers reported similar viewpoints as the parents. Their view of literacy included textbooks, writing activities, and class notes, demonstrating a preference of literacy learning in the formal school setting.

The teachers from the needs assessment reported that they saw significant growth in the area of reading as a result of small group instruction opportunities and reduced class size. The connection that the teachers made between student achievement and smaller classes is supported by studies on class size. Krieger (2002) examined class size in connection to teacher-student interactions in eleven elementary school classrooms. They found that teachers with 18 or less students were engaged in more task-related interactions than the teachers with classes of 25 or more. Additionally, in a study conducted in three lab schools in North Carolina that were designed specifically to accommodate small class sizes, student achievement scores were higher than comparative schools with larger elementary class sizes (Haenn, 2002). Teachers in this study felt more connected to the students and felt that they could individualize instruction and meet student needs more efficiently. This may connect to teacher efficacy and the importance of teachers feeling like they can make an impact.
The second merged theme is mitigating factors related to the home and literacy development. The mitigating role of the home literacy environment and pre-school instruction may have also played a role in students’ literacy achievement during the COVID-19 school closure despite teachers’ perceptions. The parents in the study all reported having access to digital devices and 58% reported having 26–100 children’s books in their homes. Further, all but two students attended preschool.

While teachers perceived a decline in literacy skills at the start of the 2020–2021 school year that they attributed to the pandemic and academic disruptions, they also reported progress throughout the remainder of the school year. Growth and achievement of the same students was attributed to small group instruction, small classes, and the ability to connect with students, which have been shown to improve students’ academic performance (Hehir et al., 2021).

Limitations

Several limitations may have impacted the results of this study including the role of the researcher, percentage of parent participants, and specific time frame of study. The researcher serves as the building principal at The Grace School which may have contributed to greater participant interest. The parent survey yielded only 63 responses which is representative of 47% of the 133 students that were enrolled in third grade at the time. Considering that the responses were anonymous, it is unknown which parents are represented or if a certain subgroup comprised the majority. It is important to note that these findings are limited to a specific time period during the pandemic. At the time of the study, only 66% of the students within the context had returned to in-person learning. Conducting the study during may have yielded different results. This study represents a short time period representing how students fared immediately after the school closure.
**Conclusion**

The merged findings section provides a foundation for understanding why there may have been a discrepancy between student performance and teacher perception. The expected learning loss (Haeck & Lefebvre, 2020; Wyse et al., 2020) in the area of literacy as a result of the school closures did not occur as expected and contrary to teacher reporting of skill deficits, the students performed better than they did the year prior as well as compared to previous cohorts. Teacher perceptions of declined student performance at the start of the school year may have been influenced by their own feelings of self-efficacy and instructional competence during the pandemic (Jelińska & Paradowski, 2021). Teachers may have transferred their own feelings of stress onto their students, assuming a learning loss or skill decline that was nonexistent. Additionally, teachers’ reports of feeling connected to their students as a result of small class size should be noted as the lack of connection may have led to the perception of skill decline. Teacher reporting of feeling disconnected or unable to meet individual needs may indicate a reason for the perceived learning loss. Additionally, it is critical to note that the home literacy environments, in which the students had access to books, digital readers, and other reading materials in the home during quarantine may have contributed to the lack of learning loss during the four-month closure.
Chapter 3
Applied Project

The results of the needs assessment revealed that, although students only attended school via virtual platforms during the four months of the COVID-19 school closures, they did not demonstrate learning loss or skill deficiencies in the area of literacy upon returning to school in September of 2020. Project three of this dissertation dossier will address the unexpected outcome of discrepancy between student achievement and teacher perception. Although the students were performing at an expected level, teachers reported literacy skill gaps. This divergence in the data can be attributed to the students’ strong home literacy environments (Hartas, 2012; Roberts et al., 2005; Smith, 2020; Van Bergen et al., 2017), teacher’s attitudes toward literacy (Squires & Bliss, 2004), and an expectation bias due to a reduction in teacher connectedness (Hehir et al., 2021).

This section will outline the rationale and description of the children’s book that I wrote based on the findings from the needs assessment. The book follows the story of the research and findings utilizing the format of a children’s picture book.

Rationale for Applied Project

The applied project for the dossier style dissertation is a children’s book that reflects the actual events and data revealed in the needs assessment. The book will include a guide for teachers, parents, and students that will encourage dialogue and discussion. The rationale for writing this book includes an exploration of the value of using children’s literature to teach complex topics (Welsh Kruger et al., 2020), an effort to address the student-teacher connection and expectation bias the data revealed (Niemi & Kousa, 2020), and a section to honor the home literacy environments of the students included in the data collection during the COVID-19 pandemic (Read et al., 2022).
Teaching with Children’s Literature

Children’s books are effective tools for teaching new content and concepts (Royce & Wiley, 1996). Using children’s picture books to teach a variety of topics such as social studies (Krey, 1998), science (Royce & Wiley, 1996), and character education (Tyra, 2012) is a creative and enjoyable method of instruction with many opportunities for a variety of extension activities and discussion (Brown, 2004). In addition to delivering content in the classroom subject areas, children’s literature written specifically for a young audience can be used to explore difficult topics or confusing moments in life and history (Welsh Kruger et al., 2020).

Freeman et al. (2011), emphasized the value of using children’s literature with adult learners as well, specifically those who work with young children. They discuss how engaging images and carefully crafted language can be used to provide a) insight into the childhood experience, b) a safe space to explore relevant issues, and c) a cultural lens for understanding different perspectives. The COVID-19 pandemic was a complex and potentially confusing time for young learners. It disrupted life and routines, and students remained out of school from March through June 2020.

The children’s book written for the purpose of this applied project will serve as a tool to discuss and explore what occurred in the lives of children during the global pandemic. In addition to the research findings, I will include nuances of that specific time period in the text and illustrations, depicting what was a uniquely global shared experience. The book will serve as a platform for children to reflect on their own experience during quarantine and will offer a way to share what occurred during that time to future students who will learn about the event as a piece of global history.
**Teacher Connectedness and Expectation Bias**

During the COVID-19 school closures, teachers interacted with students using platforms and digital tools. In a qualitative study Niemi and Kousa (2020) conducted, teachers described a shift in their feelings of connection to students through the inability to be spontaneous. Furthermore, they reported virtual instruction felt non-authentic, as compared to traditional face-to-face learning. Connectedness, or the feeling of belonging, can impact academic performance and overall well-being (Hehir et al., 2021). The reduction in student-teacher connectedness and the stalled development of authentic relationships may have led to the expectation bias the needs assessment revealed. Because teachers felt disconnected from their students, their perceptions of performance differed from actual performance.

Children’s literature can provide an opportunity for adults and students to connect (Freeman et al., 2011). The suggested method of reading the book written for this applied project (indicated in the book’s introduction) is through the interactive read aloud method. An interactive read aloud, during which the teacher reads the book to their class while encouraging dialogue and asking a series of prepared questions, can offer an opportunity for connection, community, and student-teacher relationship building (Cimo, 2020; Toliver, 2020). Utilizing the interactive read aloud model in a study of book clubs, Toliver (2020) revealed that students appreciated having their voices heard and in turn felt a sense of connectedness through the shared learning experience. By offering teachers the opportunity to read about the pandemic while providing space for dialogue and student voice, the book will serve as a mechanism for connection and relationship building.
Home Literacy Environment

The home literacy environment that the needs assessment examined may have contributed greatly to the academic performance of the third-grade cohort studied. Parents indicated high numbers of books in the home in addition to access to a variety of reading materials including non-school issues and digital readers. The home literacy environment, including access to reading materials in the home, can impact reading skills and literacy success (Hartas, 2012; Roberts et al., 2005; Smith, 2020; Van Bergen et al., 2017).

During the pandemic, parents adjusted their practices to support home instruction and virtual learning. In addition to typical literacy practices in the home, adults had to become acquainted with new platforms and virtual tools. In a study by Read et al., (2022) parents reported a shift in how they were reading with their children. Although time spent reading with their children remained the same, the method included more screen time. Sonnenschein et al., (2021) revealed similar findings about digital activities. After surveying 162 parents who were home during the pandemic with children ages two through nine, the study revealed digital reading activities increased.

The book written for this applied project serves to honor the shift in literacy practices that occurred during the school closure. In addition to virtual instruction the teachers provided, the students were engaging in traditional and new home literacy practices. Anderson et al., (2010) discussed the socio-cultural perspective of the family literacy environment and how it can evolve based on the home, school, and community. Utilizing Bronfenbrenner’s (1997) ecological systems theory, the authors described the family literacy environment critical to development and personal experience. During the closures, the students’ literacy environment shifted to include digital media, virtual instruction, and a variety of at-home activities and family culture
practices such as shared dinnertime (Serpell et al., 2002), which may have impacted the students’ literacy success. In a study conducted by a pediatric nurse, who interviewed 16 children after the quarantine, reflections on family time were positive. Children expressed spending more time together engaging in a variety of activities was a positive experience (Rollins, 2021).

In conjunction with text referring to the rich home literacy environments in which the students reside, the illustrations in the book depict family dinners, family cooking, family game night, and a variety of other family interactions as a celebration of the varied interactive literacy activities that occurred in the home during quarantine. These illustrations also aim to honor the informal learning that may have happened during these family interactions (Bourke et al., 2021). The illustrations also will include bookshelves lined with books, digital readers, and newspapers throughout the homes as a direct reflection of the data reported in the parent survey. Upon learning the students performed well on the test when returning to school, readers will be able to look back at the pictures in order to point out the literacy practices occurring. This interactive read aloud prompt is included in the book’s discussion guide.

Unprecedented

The development of this picture book includes several strategic and intentional components supported through research and selected via creative choice. I have designed the title, book structure, and suggested discussion guide to deliver the research findings in a way that is accessible to both children and adults. Utilizing the suggested methods of experienced, published authors, along with personal experience as an elementary educator, Unprecedented emerged.
The book written for the purpose of this applied project is titled *Unprecedented*. According to Webster’s Dictionary (2023), *unprecedented* is an adjective that describes something that is never done, known before, or unparalleled. I chose this name for two reasons; 1) *unprecedented* was a commonly used term during the pandemic, and 2) the results of the needs assessment were unprecedented in that prior research after a traumatic event yielded results indicating learning loss or academic decline (Gershenson & Tekin, 2018). News and social media outlets used the term *unprecedented* widely to describe the unusual and exceptional experience of COVID-19. As employers encouraged their teams to work from home and schools figured out a way to move instruction to the virtual world, the word unprecedented seemed to become the descriptive term of the pandemic. After an analysis of 20,000 business presentations in the year 2020, a study revealed the utilization of the word unprecedented was up by 70,830% (Karain & June, 2020). Subsequently, the outcomes of the needs assessment that will be shared through a narrator’s lens within the book are also unprecedented. The performance of the students upon returning to school after months of closure was unparalleled or unknown before.

The book *I Dissent* (YEAR), by Debbie Levy, served as the inspiration for using an unfamiliar vocabulary word which students may not know as the book’s title. Throughout the book, Levy defines the term *dissent* through Ruth Bader Ginsburg’s actions and words, allowing the young reader to understand the word within context. The book *Unprecedented* defines the word in context so the reader learns the definition through the story. For example, an excerpt from the books reads, “‘Unprecedented,’” they called it. A time like no other.” Paul (2018) emphasizes the importance of using language that is not juvenile and urges writers to incorporate vocabulary that may be unfamiliar as long as readers can derive meaning from context.
In addition to using a title with an unfamiliar word, Miller (1966) explains a single word derives meaning from context only and does not hold a definition on its own. However, single-world titles can offer insight into what a book is about while keeping the reader unsure. This title will feel familiar to most adults as it was a popular term during the pandemic, but the goal is to provide a new layer of unexpected meaning through this unprecedented or previously unknown research story.

**Book Structure**

I designed the outline of the book using the suggested method Fredericks (2018) offered. The author suggests a multi-step approach to developing the book’s story. This process includes developing a main idea, determining the main characters, identifying the conflict and resolution, and organizing the plot. Fredericks (2018) explained the main idea for both fiction and non-fiction should be captured in a ten-to-fifteen-word sentence. I developed the following main idea to summarize the plot of *Unprecedented* (2023): The children of a small school defy expectations in literacy achievement after the COVID-19 school closures.

As Fredericks (2018) suggested, Table 10 outlines the book’s characters, conflict, and solution. The characters represent the participants of the needs assessment, and the conflict and resolution represent the outcome of the study, reflecting both the qualitative and quantitative data. The main characters include the third-grade teachers, students, and parents who all served as participants in the study. The book’s conflict develops by describing the school closures and quarantine and how many shared the expectation of learning loss, including researchers (Haeck & Lefebvre, 2020; Wyse et al., 2020) and the third-grade teachers within the study. Unpredicted student achievement and lack of skill decline, as the STAR testing scores demonstrated, will reveal the book’s resolution. The book’s resolution pays homage to the rich home literacy
environments that may have been overlooked but were contributing to literacy development
throughout the closures (Roberts et al., 2005; Rhodes, 2015).

Table 10

<table>
<thead>
<tr>
<th>Story Component</th>
<th>Description</th>
<th>Connection to Needs Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Characters</td>
<td>Third-grade students</td>
<td>Literacy achievement data was collected on n = 133 third grade students</td>
</tr>
<tr>
<td></td>
<td>Third-grade teachers</td>
<td>Qualitative interview data was collected on n = 11 third grade teachers</td>
</tr>
<tr>
<td></td>
<td>Third-grade parents</td>
<td>Survey data was collected on n = 63 parents of third grade students</td>
</tr>
<tr>
<td>Conflict</td>
<td>School closures during the pandemic caused teachers to assume students would perform poorly upon returning to school.</td>
<td>The needs assessment findings revealed teacher perceptions aligned with the expected learning loss in literacy as a result of the school closures (Haeck &amp; Lefebvre, 2020; Wyse et al., 2020).</td>
</tr>
<tr>
<td>Resolution</td>
<td>Students defied the expectations and scored higher than they did the year prior, because they were immersed in rich home literacy environments.</td>
<td>STAR data revealed achievement scores that were higher than the year prior and the students outscored six third-grade cohorts prior. The home literacy environment may have been a mitigating factor that minimized the potential for learning loss: 92% of parents indicated they have 26–100 books in the home; 56% also reported spending one to five hours reading for information each day; and 40% indicated reading for enjoyment every day. This reporting aligns with literacy development benefits of strong home literacy environments (Roberts et al., 2005; Rohde, 2015).</td>
</tr>
</tbody>
</table>

I developed the draft plot (Figure 2) as a guide to ensure I included key elements of the research story. This draft plot serves as a timeline of history along with a timeline of the research
study. It also incorporates the conflict and resolution elements as Table 10 outlined. Figure 2 reflects the suggested methodologies of Klein (2016) and Fredericks (2018).

**Figure 2**

*Draft Plot of Unprecedented*

| People getting sick → Global pandemic declared → Stay home order → |
| School Closure → Virtual Learning → Adults worry about return → |
| Adults predict decline in literacy skills → Children take the test → |
| Children score higher than expected → Adults are shocked → realization |
| why they did so well → celebrate home literacy environment |

Table 11 reflects the elements included in Figure 2 and their connection to Chapters 1 and 2 of this dossier-style dissertation. The draft plot provides background to the story and provides context for what was uncovered during the data collection. The draft plot invites the reader to understand what was happening globally, while telling the story of the needs assessment conducted at Grace School. Each draft plot component reflects a concept explained in Chapter 1 or Chapter 2 of this dossier-style dissertation.

*Unprecedented* utilizes a picture book format, and its target audience is parents, students, and teachers, which reflects the participants in the study. Although picture books are typically read aloud to children, the target audience includes adults, as the messaging of the story is relevant to understanding the critical role the home environment played during quarantine, as well as how teachers wrongfully may have assumed learning loss occurred when this was not the case.
### Table 11

**Draft Plot Components and Chapter Connections**

<table>
<thead>
<tr>
<th>Draft Plot Component</th>
<th>Connection to Chapters 1 and 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>People Getting Sick; Global Pandemic Declared</td>
<td>The World Health Organization declares global pandemic on March 11, 2020</td>
</tr>
<tr>
<td>Stay Home Order</td>
<td>Federal Government issues stay home order on March 28, 2020 (CDC, 2022)</td>
</tr>
<tr>
<td>School Closure; Virtual Learning</td>
<td>School across the United States begin to close. Governor of New York issues mandate for schools to remain closed for remainder of the school year on April 11, 2020 (NYSED, 2020)</td>
</tr>
<tr>
<td>Adults worry about return; Adults predict decline in literacy skills</td>
<td>Media platforms discuss concerns of learning loss (New York Times, 2022)</td>
</tr>
<tr>
<td></td>
<td>Researchers release literature predicting learning loss (Renaissance, 2020; Wyse et al., 2020)</td>
</tr>
<tr>
<td></td>
<td>Existing literature suggests predicted learning loss after school closures (Gershenson &amp; Tekin, 2018, Gibbs et al., 2019; Entwisle et al., 1997)</td>
</tr>
<tr>
<td>Children take the test</td>
<td>All students take the STAR literacy test upon returning to school in Fall 2020</td>
</tr>
<tr>
<td>Children score higher than expected</td>
<td>Data reveals students outperformed themselves from the year prior and scored above third-grade cohorts dating back to 2016</td>
</tr>
<tr>
<td>Adults are shocked</td>
<td>Interview data collected for needs assessment reveals divergence in the qualitative and quantitative data</td>
</tr>
<tr>
<td>Realization why they did so well</td>
<td>Analysis of parent survey suggests home literacy environment may have played a strong role in the lack of skill decline (Roberts et al., 2005; Rohde, 2015)</td>
</tr>
<tr>
<td>Celebrate home literacy environment</td>
<td>The number of books in the home along with access to digital readers and positive attitudes toward reading may have been a mitigating factor (Van Bergen et al., 2017)</td>
</tr>
</tbody>
</table>
In addition, the word count reflects what is suggested for the age range of the student participants. According to Klein (2016), picture books written for children ages eight to ten should have a maximum of 1,300 words, with an ideal range of 300–550. Additionally, the suggested pagination for story-based children’s picture books is approximately 32 pages (Penguin Books, 2023). These recommendations will guide the book’s word and page counts.

**Suggested Discussion Guide**

Responding to and interacting with literature can influence the way we connect to books and stories. Discussion guides offer opportunities for readers to reflect on their own experiences and appreciate the author’s intention and detail (McGinley et al., 2000). *Unprecedented* will include an accompanying discussion guide that all readers—including parents, teachers, and students—can use to explore the book. The questions will allow readers to reflect on their own experiences during the quarantine, connect to the story, and reflect on assumptions and biases. The following example questions aim to prompt discussion to allow readers to explore their own personal experiences during the pandemic.

1. The title of the book is *Unprecedented*. Why do you think the author chose that title?
2. Take a close look at the pictures of the families at home. Do you notice anything that reminds you of your time during quarantine?
3. The teachers were worried about the students not scoring well when they returned to school. Why do you think they were so concerned?
4. Why do you think the students did better on the test than expected?
5. Did you ever expect or assume something about someone only to find out your prediction wasn’t right at all?
Summary

The book, *Unprecedented*, features the story and findings of the needs assessment outlined in Chapter 2 as well as literature described in Chapter 1 of this dissertation style dossier. From intentional selection of the title to thoughtful design of the book’s structure and discussion guide, *Unprecedented*, captures the unexpected outcomes of the study. Designed as a tool for teachers and parents to connect with students through discussion and reflection of personal pandemic experiences, the book offers insight as to why students defied expectations in the area of literacy post school closure as a result of the rich home literacy environments during the period of quarantine. The book represents a visual and textual snapshot of a unique historical event that involved children. By adding it to classroom and home libraries, children and adults will have access to read about the unique and unprecedented research findings of Grace School during the COVID-19 pandemic. It is my hope that this story of unexpected student outcomes will inspire children and adults to stretch their beliefs beyond expectations and assumptions regardless of the circumstances, even if they are unprecedented.
Chapter 4

Children’s Picture Book: Unprecedented

This chapter includes a book manuscript for *Unprecedented*. The manuscript includes a book dedication, introduction, story text organized by page number, and discussion guide. The manuscript also includes a message from the author in addition to an about the author section. Figure 3 depicts the standard 32-page picture book format with suggested sketches for illustration and page layout. The text and suggested illustrations align with the book development outlined in chapter 3 of this dossier-style dissertation. Table 12 explains the sketches in Figure 2 and provides details about the suggested images by page number.

Figure 3

*Book layout and illustration sketches*
Table 12

**Illustration Suggestions by Page Number**

<table>
<thead>
<tr>
<th>Page Number</th>
<th>Suggested Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>Bird’s eye view of planet earth with signs of life (buildings, trees, homes)</td>
</tr>
<tr>
<td>3, 4</td>
<td>Local officials and news anchors making announcements. Buildings with “closed” signs</td>
</tr>
<tr>
<td>5, 6</td>
<td>Wide view of homes in various shapes sizes and colors. Shadows of families inside windows.</td>
</tr>
<tr>
<td>7, 8</td>
<td>Bird’s eye view of same globe on pages 1 and 2 with arrow pointing to location of study with image of school building.</td>
</tr>
<tr>
<td>9, 10</td>
<td>Virtual learning screen of students on Zoom or Webex with image of teacher view of students through screen.</td>
</tr>
<tr>
<td>11, 12</td>
<td>Crowds of adults (teachers, principals, politicians, news anchors) with speech bubbles predicting learning loss</td>
</tr>
<tr>
<td>13, 14</td>
<td>Summer images (sun, flowers, school building)</td>
</tr>
<tr>
<td>15, 16</td>
<td>Students sitting at desks in rows taking tests on tablets</td>
</tr>
<tr>
<td>17, 18</td>
<td>Groups of teachers chatting with speech bubbles (shock about achievement scores)</td>
</tr>
<tr>
<td>19, 20</td>
<td>Wide view of same homes from pages 5 and 6 with views of interior activity (dinner tables, reading, cooking, family gatherings, watching TV)</td>
</tr>
<tr>
<td>21, 22</td>
<td>Close up views of activities in text</td>
</tr>
<tr>
<td>23, 24</td>
<td>Close up views of activities in text</td>
</tr>
<tr>
<td>25, 26</td>
<td>Groups of students and teachers and parents smiling together in partnership</td>
</tr>
</tbody>
</table>
UNPRECEDENTED
A COVID-19 Story

Dedication Page
For my scholars

Introduction
The COVID-19 pandemic was a scary time. Many people got sick and many even died from the virus. Books can help us learn and talk about difficult times, they help us connect, and they can help us see things in a new way. This book was written to share how we can always learn something about ourselves, even in dark and unpredictable times. This story is based on real events that happened with real children, teachers, and families in a real school during the pandemic.

Page 1
This story begins in March 2020.
Something serious was happening around the world.
A virus was spreading…
Unprecedented they called it,
a time like no other.
People were getting sick everywhere.
On planes.
On buses.
On trains
At work.
At the library.
At the grocery store.
Even at school.

The experts and leaders were alarmed.
The scientists and doctors were puzzled.
How could this virus be stopped?

In order to be extra cautious and extra safe,
people were told to stay home.

And so began the great quarantine.
Libraries, museums, and theaters went dark.

Grown-ups worked from home when they could.

People did their shopping online.

Friends stayed six feet apart.

All this was done in order to protect people from the new virus.

But it wasn’t just the grown-ups who changed their ways.

It wasn’t just the grown-ups who stayed home.

It wasn’t just the grown-ups who kept a distance from their friends.

The children did their part, too.

Although this was happening across the globe,

our story takes us to a very specific place:

a small elementary school on Long Island, New York.

There, 397 students of different races and abilities switched to online learning,

just like the rest of the world.
Page 9
The quarantine was only supposed to last two weeks, but the virus kept spreading.
Leaders announced that school would stay closed for the remainder of the year.

Page 10
Teachers and students worked together online through their screens.
Teachers did their best to help students learn.
Students did their best to keep on learning.

Page 11
Unprecedented they called it, a time like no other.
With school closed for so long, how could the students recover?

Page 12
The teachers and principal had so many questions.
How much learning would be lost?
Would the students ever catch up?
Would they be ready to go back to school?
Page 13

They predicted the worst.

Reading skills would take a dive,

and students would start the new year far behind.

Page 14

Over the summer the grown-ups planned to re-open school

in the safest way possible.

Wearing masks.

Sitting six feet apart.

Sanitizing daily.

Eating only at desks.

Page 15

The children were excited to return in the fall,

happy to be in person again with their teachers and friends.

But now they had to take their big back-to-school reading test.

Page 16

The teachers continued to worry what the tests would show.

“Their scores will be terrible.”

“Learning from home just isn’t the same.”

“It will be a lot of work to help them catch up.”
When the scores came back, everyone was shocked.

The numbers were even higher than usual!

How was this possible?
How could this be?

Unprecedented they called it, a time like no other.
With schools closed for so long, how did the students recover?

The school doors may have been closed, but growing minds were still open.
Learning was happening in all sorts of new ways.

Children read books from their home libraries.
Children used the internet to look up new information.
Page 22

Children watched TV with their parents.

And at dinner, they shared what they were learning.

Page 23

Children read cookbooks and tried new recipes.

Children studied game instructions.

Page 24

Children mastered online learning tools.

And at bedtime, they curled up with stories.

Page 25

The students and teachers in this small New York school

surprised everyone,

even themselves.

Although the grown-ups predicted learning loss,

there was no learning loss at all.

Page 26

This story ends with a beautiful message

that learning can happen anywhere and everywhere.
Even during unprecedented times.

**Suggested Discussion Guide**

1. The title of the book is *Unprecedented*. Why do you think the author chose that title?
2. Take a close look at the pictures of the families at home, do you notice anything that reminds you of your time during quarantine?
3. The teachers were worried about the students not scoring well when they returned to school, why do you think they were so concerned?
4. Why do you think the students did better on the test than expected?
5. Did you ever expect or assume something about someone only to find out your prediction wasn’t right at all?

**Message from the Author**

This book was written as part of a dossier-style dissertation at Johns Hopkins University. The story depicts actual data collected during a mixed methods needs assessment study in 2020. It is important to note that learning loss as a result of the COVID-19 pandemic is still being studied and is sure to be a topic of interest in education research for many years to come. This book reflects a moment in time in just one school in New York. Although the outcomes may not have been representative or aligned with every school, it is an unprecedented research story about defying expectations that I needed to share and hope many can learn from.

**About the Author**

Rachel Yudin is an elementary school principal in Malverne, NY. She received her BA in psychology and art from Queens College University and studied creative arts therapy and special
education in the Hofstra University master’s program. She studied school leadership at Stony Brook University where she earned her school building and district leader certifications. Rachel is currently enrolled as a doctoral student at Johns Hopkins University. She lives on Long Island with her husband Leiby and is a proud bonus mom of two.

**Discussion**

The book *Unprecedented* was developed for multiple purposes. It was written as a tool to explore a difficult event in history (Welsh Kruger et al., 2020), for adults and children to connect and reflect (McGinley et al., 2000), and to celebrate the home literacy environments of the children (Read et al., 2022). The book takes the reader through the story of the needs assessment and its unexpected outcomes. Creative choices were made to support these purposes and contribute to intended outcomes. The introduction provides background knowledge into understanding this time in history and the writing style supports direct connection with students.

**Book Introduction**

The book’s introduction uses child-friendly and direct language to set the stage for the story. Rapa et.al (2020) emphasize being concrete and direct when talking to children about difficult topics such as the COVID-19 pandemic. Using developmentally appropriate language, adults can offer truthful and honest information. The book’s introduction mentions how severe the pandemic was, that people died, and that it was a scary time. The introduction also offers hope because this story has a positive outcome. The introduction also serves as a lens in which adults can prepare themselves to read the book (Freeman et al., 2011). Although the story has a positive outcome, the time and setting may be scary or uncomfortable for children.

**Narrative Style**
The style of writing for the book is a critical component of the book’s development. Originally written using an ABAB rhyming pattern, the text now embodies more direct language using literary prose. Literary prose does not follow a specific rhyming pattern, uses correct grammar, and follows the conventions of the English language (Klein, 2009). This change supports the intended purpose of connection. Using direct and explicit language, the author is talking directly to the child. Paul (2018) suggests that being aware of rhythm while writing in prose is essential. Different stories call for different rhythms to set the mood and tone. This can be achieved by line breaks and punctuation. For example, on page 2 of Unprecedented, the list of places where people were getting sick ends with “even at school”. This final location is where the child reading or listening to the story can connect and relate. Additionally, the line-break on page 9 where the narrator states that school would remain closed, “for the remainder of the year” is a separate line for rhythm and emphasis.

The manuscript developed for the applied project is complete and ready to submit for publication. The ultimate outcome of the children’s picture book would be to have the manuscript published for print. That publishing process will be explored as a next step.

**Implications**

There are implications of this study worth noting. Teacher reflection, student resilience, the contribution to the home literacy environment, and the connection of research to practice are at the forefront of this study’s potential implications. The book can be used for professional development practices, classroom discussions on resilience, and home library expansions.

**Teacher Reflection of Biases through Professional Development**

The qualitative teacher interviews revealed an expectation bias towards achievement post school closures. In addition to expressing a lack of connection during virtual learning (Hehir et
al., 2021), a bias towards formal in-school learning and not understanding the value of the home literacy environment may have influenced these perceptions (Guzmán-Simón, et. al, 2018). It is apparent that further professional development in this area could be beneficial. The book can offer an anchor for this discussion. By using *Unprecedented* in the professional development setting, teachers can learn about potential biases in an unthreatening and non-accusatory way. Teachers can explore the study and evaluate the outcomes by reflecting on the home practices of their students. The current discussion guide can be used to spark dialogue; however, schools can develop their own teacher centered questions in order facilitate discussions specific to their contexts and student populations. Additionally, the exploration of implicit biases specifically towards students that may reside in homes that differ from teachers’ own racial or cultural backgrounds is a critical conversation that can be shared utilizing this book. The assumed learning loss may have been a result of these biases and are worthy of examining through professional development.

**Teaching Students about Resilience**

Resilience is defined as the ability to adapt under challenging circumstances (Alvord & Grado, 2005). The book, *Unprecedented*, is a story of resilience showcasing how students adapted during the school closure and defied expectations by improving and not declining in their literacy achievement. This story needs to be shared with kids. Tillot et al., (2022) discuss the use of storybooks to teach and model resiliency. Their study revealed that children can learn resilient behaviors by listening to books about resilience. By using the book in the classroom teachers can incorporate this message of resiliency into social emotional learning lessons and workshops. Furthermore, the book can be read by parents to their children to promote resiliency and to point out that children can defy expectations and the assumptions of others.
Addition to the Home literacy Environment

The home literacy environment, which includes the number of books in the home, was a possible mitigating factor for children in this study. The divergence in the data and lack of literacy learning loss may have resulted from the at-home literacy practices (Anderson et al., 2010), informal learning (Bourke et. al, 2020), and access to reading materials (Niklas et. al, 2020) during quarantine. Not only does the book celebrate the influence of the home literacy environment, but it also adds to it. The hope is that Unprecedented will expand home libraries and provide a resource that shares the importance of the home literacy environment.

Connecting Research to Practice

Unprecedented was developed through research and scientific investigation rooted in authentic data collection. A children’s story reflective of research can serve as a potential tool to bridge the gap between scholarship and practice. By incorporating Unprecedented into classroom lessons or professional development workshops, children and adults can explore research-based topics that are relevant, accessible, and impactful. Children’s literature can offer researchers a vehicle to share their findings while teachers and practitioners can expand their repertoire of competencies and instructional practices. Farley-Ripple et al. (2018) emphasize the need to rethink the way research is linked to practical application across contexts. Korthagen (2003) offers a potential reason for why the research-to-practice gap exists. Teachers require practical knowledge and tools in order to carry out their responsibilities, while researchers thrive in the area of formal knowledge. Transforming formal knowledge from research literature and empirical studies into practical knowledge using applicable tools, such as a children’s book, can be powerful. Children’s literature and the development of books and stories based on the results
of actual educational research may be an overlooked opportunity to bridge the gap between researchers and educational practitioners.

**Reflection**

This entire process of identifying a problem, researching the problem within my context, developing a needs assessment, collecting data, analyzing the data, and developing my applied project has been incredibly challenging and rewarding. I am so grateful for the opportunity to be among the first Johns Hopkins Doctor of Education students to take on the dossier-style dissertation. I was originally drawn to this doctoral program because the idea of researching a topic within my own educational setting felt relevant and exciting. Knowing that I could potentially learn something new about my context and put that knowledge into practice was inspiring.

I must admit that I approached the needs assessment with my own expectation biases. I assumed I would discover an element of learning loss and that I would then proceed with the classic five-chapter applied dissertation where I developed an intervention. Fortunately, I completed my data collection and analysis around the same time the option of the dossier-style dissertation was presented to EdD students. At the time I was unclear and unsure about how I would approach the intervention portion of my dissertation. The applied project offered a creative way to tackle what I had uncovered from the needs assessment. Once I was given the green light to proceed with a children’s book, the next phase of my work took on a new life. I found a new passion for research that I hadn’t expected. Further, I had the opportunity to work on a project that had been a long-time dream of mine. I was determined to develop my rationale and create the story in a way that could inspire others.
I am so very proud of what I was able to produce with the unwavering and consistent support of my advisor and doctoral committee. I believe my dossier-style dissertation will serve as a testament that traditional ways of writing a dissertation and earning a doctoral degree in education are not the only way to make potential changes and gains in practice. Instead, rigorous research and applying findings for why the problem exists to ameliorate context-based problems can happen in creative forms of scholarship. Just as it says in the book *Unprecedented*, learning can come in many forms and can happen everywhere and anywhere.
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https://doi.org/10.1002/cbl.30483


Appendix A

STAR Assessments Reliability Rating

Appendix B

Cronbach’s Alpha Reliability Coefficient PIRLS 2016

<table>
<thead>
<tr>
<th>Country</th>
<th>Reliability Coefficient</th>
<th>PIRLS</th>
<th>PIRLS Literacy</th>
<th>ePIRLS</th>
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<tbody>
<tr>
<td>Australia</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azerbaijan</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Bahrain</td>
<td>0.91</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Belgium (Flemish)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Belgium (French)</td>
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<td></td>
<td></td>
<td></td>
</tr>
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<td>Bulgaria</td>
<td>0.91</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Canada</td>
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<td></td>
<td>0.90</td>
<td></td>
</tr>
<tr>
<td>Chile</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Chinese Taipei</td>
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<td></td>
<td>0.90</td>
<td></td>
</tr>
<tr>
<td>Czech Republic</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>0.88</td>
<td></td>
<td>0.90</td>
<td></td>
</tr>
<tr>
<td>Egypt</td>
<td>—</td>
<td>0.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>England</td>
<td>0.90</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Finland</td>
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<td></td>
<td></td>
<td></td>
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<td>France</td>
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<td>Germany</td>
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<td></td>
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<tr>
<td>Hong Kong SAR</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iran, Islamic Rep. of</td>
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<td>0.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
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<td></td>
<td>0.90</td>
<td></td>
</tr>
<tr>
<td>Israel</td>
<td>0.92</td>
<td></td>
<td>0.92</td>
<td></td>
</tr>
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<td>Italy</td>
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</tr>
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<td>Kuwait</td>
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<td></td>
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<td>Macao SAR</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Malta</td>
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## Exhibit 10.7: Cronbach’s Alpha Reliability Coefficient – PIRLS 2016 (Continued)

<table>
<thead>
<tr>
<th>Country</th>
<th>PIRLS</th>
<th>PIRLS Literacy</th>
<th>ePIRLS</th>
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<tr>
<td>Morocco</td>
<td>0.86</td>
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<tr>
<td>Netherlands</td>
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<td>—</td>
</tr>
<tr>
<td>New Zealand</td>
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<td>—</td>
</tr>
<tr>
<td>Northern Ireland</td>
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</tr>
<tr>
<td>Norway</td>
<td>0.87</td>
<td>—</td>
<td>0.89</td>
</tr>
<tr>
<td>Oman</td>
<td>0.91</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Poland</td>
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</tr>
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<td>Portugal</td>
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<td>0.89</td>
</tr>
<tr>
<td>Qatar</td>
<td>0.92</td>
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<tr>
<td>Russian Federation</td>
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<td>Saudi Arabia</td>
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<td>—</td>
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<td>—</td>
<td>0.92</td>
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<td>Slovak Republic</td>
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</tr>
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<td>Slovenia</td>
<td>0.89</td>
<td>—</td>
<td>0.90</td>
</tr>
<tr>
<td>South Africa</td>
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<td>Spain</td>
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<td>—</td>
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<tr>
<td>Sweden</td>
<td>0.88</td>
<td>—</td>
<td>0.90</td>
</tr>
<tr>
<td>Trinidad and Tobago</td>
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<td>—</td>
</tr>
<tr>
<td>United Arab Emirates</td>
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<td>0.93</td>
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<tr>
<td>United States</td>
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<td>0.91</td>
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<tr>
<td><strong>International Median</strong></td>
<td><strong>0.89</strong></td>
<td><strong>0.91</strong></td>
<td><strong>0.90</strong></td>
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</table>

### Benchmarking Participants

<table>
<thead>
<tr>
<th>Country</th>
<th>PIRLS</th>
<th>PIRLS Literacy</th>
<th>ePIRLS</th>
</tr>
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<tbody>
<tr>
<td>Buenos Aires, Argentina</td>
<td>0.90</td>
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<td>—</td>
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<tr>
<td>Ontario, Canada</td>
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<td>—</td>
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<tr>
<td>Quebec, Canada</td>
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<td>—</td>
</tr>
<tr>
<td>Denmark (3)</td>
<td>—</td>
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<td>—</td>
</tr>
<tr>
<td>Norway (4)</td>
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<td>—</td>
</tr>
<tr>
<td>Moscow City, Russian Fed.</td>
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</tr>
<tr>
<td>Eng/Afr/Zulu - RSA (5)</td>
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<td>—</td>
</tr>
<tr>
<td>Andalusia, Spain</td>
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<td>—</td>
<td>—</td>
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<tr>
<td>Madrid, Spain</td>
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<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Abu Dhabi, UAE</td>
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<td>0.93</td>
</tr>
<tr>
<td>Dubai, UAE</td>
<td>0.92</td>
<td>—</td>
<td>0.93</td>
</tr>
</tbody>
</table>
Appendix C

Literacy in the Home Parent Survey

Literacy in the Home (adapted from the Progress in International Reading Literacy Study PIRLS 2016)

Thank you for agreeing to participate in this survey. The information you provided will remain strictly confidential. By completing this survey or questionnaire, you are consenting to be in this research study. Your participation is voluntary, and you can stop at any time.

1. In a typical week, how much time do you usually spend reading for yourself at home, including books, newspapers, and materials
   ☐ Less than one hour a week
   ☐ 1-5 hours a week
   ☐ 6-10 hours a week
   ☐ More than 10 hours a week

2. When you are home, how often do you read for enjoyment?
   ☐ Every day or almost every day
   ☐ Once or twice a week
   ☐ Once or twice a month
   ☐ Never or almost never

3. Please indicate how much you agree with the following statements about reading

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree a lot</th>
<th>Agree a little</th>
<th>Disagree a little</th>
<th>Disagree a lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>I read only if I have to</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I like talking about what I'm reading with other people</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I like to spend my spare time reading</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I read only if I need information</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Reading is an important activity in my home</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>I would like to have more time for reading</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Agree a lot | Agree a little | Disagree a little | Disagree a lot
---|---|---|---
I enjoy reading
Reading is one of my favorite hobbies

4. About how many books are in your home? (Do not count eBooks, magazines, newspapers, or children's books)
   - 0-10
   - 11-25
   - 26-100
   - 101-200
   - more than 200

5. About how many children's books are in your home? (Do not count eBooks, magazines, or school books)
   - 0-10
   - 11-25
   - 26-100
   - 101-200
   - more than 200

6. Do you have a device you use for reading eBooks? (tablet, eReader, or computer)
   - Yes
   - No

7. Do you have a device your child can use for reading eBooks? (tablet, eReader, or computer) Do not count school issued devices
   - Yes
   - No

8. How many digital information devices are there in your home? Count computers, tablets, smartphones, smart TVs, and e-readers. (Do not count other devices.)
   - none
   - 1-3 devices
   - 4-6 devices
   - 7-10 devices
More than 10 devices

9. **How often does your child speak English at home?**
   - Always
   - Almost always
   - Sometimes
   - Never

10. **Did your current 3rd grade child attend preschool prior to attending kindergarten?**
    *Attendance in any full or part time preschool program that had an academic component (not babysitting) should be reported as YES*
    - Yes
    - No
    - Unsure/Can't remember
May 2021

Dear 3rd grade parents,

I am currently enrolled as a doctoral student at Johns Hopkins University and I have chosen to dedicate my area of research and study to literacy achievement. I began this academic journey at the start of this school year and plan on completing my dissertation just as our current third graders will be moving up to the Middle School. Therefore, I have selected your child’s cohort to be the focus of my studies.

In addition to taking a close look at how our students are performing in school, I am interested in learning about your child’s home literacy environment.

Below is a link to a brief survey that will help inform my research. The information will remain confidential and anonymous, and I thank you in advance for taking the time to answer the questions as best as you can.

Your participation is optional, but very much appreciated.

https://forms.office.com/Pages/ResponsePage.aspx?id=qL4tQVNbnk-hAsJpCoqtQVJ5wIKa58RBIm75kDoSTiFUMFg4REtTOETMOVNKNUQxSEVDNjBYSUY5T S4u

Sincerely,

Rachel Gross
Principal
Appendix E

Malverne Union Free School District
301 Wicks Lane • Malverne, NY 11565 • (516) 887-6405

March 2021

To the Johns Hopkins University Homewood Institutional Review Board (HIRB):

Our site does not have a formal IRB protocol or research approval process; however, as superintendent of schools, I have the full authority to grant Rachel Gross permission to conduct research at the Malverne Union Free School District. This letter documents the granting of full permission.

I understand that this research on elementary literacy is for the purpose of the year one needs assessment paper and dissertation research for fulfillment of the EdD doctoral dissertation work at Johns Hopkins School of Education.

I am aware that Rachel Gross’ research is in compliance with and will be submitted for approval by the Johns Hopkins School of Education blanket IRB protocol, HIRB and is approved by Dr. Camille Bryant, Dissertation Adviser and Dr. Lisa Mitchell, Research Methods Instructor. As superintendent of schools, Rachel Gross has my full approval to conduct this study using data collected from teachers, principals, and parents in The Malverne School District.

Rachel Gross specifically has my permission and approval to:

- Use the internal emails from our organization to recruit and solicit participants
- Use the organization’s internal distribution system to have the recruitment sent out through our offices
- Use the organization’s internal data collection format for surveys and questionnaires (Microsoft Office)
- Use enrollment, academic testing (STAR), and demographic data from the Malverne schools. These data will be deidentified in advance of their receipt and contain no code numbers or names of individuals so no personal information is shared
- Collect data from consenting participants via surveys, questionnaires, and interviews.
- Collect qualitative data from participants regarding teacher observations, student performance, teacher beliefs, and parent involvement
- Conduct an intervention

We look forward to this research and believe it will enhance the performance of our organization.

Sincerely,

[Signature]
Dr. Lorna Lewis
Superintendent of Schools
llewis@malverne.k12.ny.us
Appendix F

Renaissance STAR Reading Intervention Categories by Percentile Ranking

<table>
<thead>
<tr>
<th>Grade</th>
<th>Urgent Intervention</th>
<th>Intervention</th>
<th>On Watch</th>
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<tr>
<td>Grade 1</td>
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<td>Grade 11</td>
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