The Impact of Targeted Family Communication on Student Engagement and

Learning Outcomes in Online Education

A Doctoral Capstone Project

Submitted to the School of Graduate Studies

Department of Education

In Partial Fulfillment of the

Requirements for the Degree of

Doctor of Education

Shawn David Lanious

PennWest University

July 2025

Doctoral Capstone Project Committee
Dr. Stephanie Williams- Faculty Capstone Committee Advisor
Dr. Jerald Barris- External Capstone Committee Member

Pennsylvania Western University

School of Graduate Studies and Research

Department of Education

We hereby approve the Capstone of

Shawn Lanious

Candidate for the Degree of Doctor of Education

July 16, 2025

Stephanie M. Williams, Ph.D.
Associate Professor
Pennsylvania Western University
Doctoral Capstone Faculty Committee Chair

The Impact of Targeted Family Communication

July 16, 2025

Jerald A. Barris, Ed.D.
High School Principal
PAcyber
Doctoral Capstone External Committee Chair

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Dedication

To my children, Anderson and Abigail. Your boundless curiosity, constant learning, and growth remind me daily why I do this work. And to my wife, Melissa. Your unwavering support, patience, and belief in me made this journey possible. You three are my reason for everything.

This work is also dedicated to the students, staff, and stakeholders of PAcyber. Your commitment to learning and school choice inspired this study and continue to drive my passion for educational innovation.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

potential and your willingness to support my reentry allowed me to finish this work with clarity and purpose.

Finally, I am thankful for the many voices: students, families, teachers, and leaders who shaped this research. Your stories, actions, and experiences are what made this project possible and meaningful.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Table of Contents

THE IMPACT OF TARGETED FAMILY COMMUNICATION

List of Tables

THE IMPACT OF TARGETED FAMILY COMMUNICATION

List of Figures

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Abstract

This mixed-methods study investigated the impact of targeted, consistent teacher communication on third-grade student academic performance, engagement, and parent perceptions in a full-time online learning environment. The intervention involved structured, monthly outreach from teachers to families, implemented during the 2024–2025 school year at PAcyber. Two cohorts were analyzed: a baseline group from 2023–2024 and an intervention group from 2024–2025. Data sources included final grades, Exact Path diagnostic assessments, attendance records, and a parent perception survey.

Quantitative analysis revealed statistically significant gains in ELA, Math, and Science final grades for the intervention cohort, with extremely large effect sizes. Math diagnostic scores also showed notable improvement. However, attendance declined slightly in the intervention group, despite over 60 percent of parents reporting increased student engagement. Qualitative survey data underscored themes of strengthened family-school relationships, increased student motivation, and improved parent confidence in supporting their children.

The study concluded that structured teacher communication is a scalable, cost-effective strategy for improving academic outcomes and relational engagement in virtual education. Recommendations include expanding the intervention across grade levels, refining engagement metrics beyond attendance, and exploring the impact of varied communication modalities. Limitations included implementation inconsistencies and parent preference for alternative communication channels. Findings have direct implications for virtual school practices, highlighting communication as foundational, not supplemental, to effective online instruction.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

CHAPTER 1

The Impact of Targeted Family Communication

The landscape of K-12 education has undergone a significant transformation in recent years, with online learning emerging as a prominent mode of instruction. This shift is exemplified by the growth of cyber charter schools, such as the Pennsylvania Cyber Charter School (PAcyber), which has expanded from serving 50 local students in 1999 to educating approximately 11,000 students across Pennsylvania in 2024. However, this expansion has occurred concurrently with evidence of suboptimal performance in many online schools. A comprehensive study by Molnar et al. (2019) found that "only 48.5% of virtual schools with available ratings received acceptable performance ratings in the 2017-18 academic year" (p. 4).

The rapid growth of online education presents both opportunities and challenges for students, educators, and families. While online learning offers increased flexibility and access to educational resources, it also requires new approaches to engagement, communication, and support. Barbour (2019) observed that "the landscape of K-12 online learning has expanded dramatically, with enrollment increasing by 60% between 2013 and 2018" (p. 523). This significant growth underscores the urgent need for effective strategies to ensure student success in online learning environments. As educators, we must adapt our practices to meet the unique demands of virtual education while maintaining high standards of academic achievement and student engagement.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Background

As observed by the K-5 Principal at PAcyber, an online cyber charter school in Pennsylvania, effective communication with families plays a critical role in student success within an online learning environment. The rapid growth of online education, coupled with the challenges faced by online schools in ensuring student success, underscores the need for innovative approaches to enhance student engagement and learning outcomes.

The K-5 Principal oversees the education of elementary students across Pennsylvania, providing a unique perspective on the diverse educational needs of students from various backgrounds and regions. The school's purpose is to provide an alternative to traditional schooling, offering students and families choice in their educational journey. This position at the forefront of online elementary education has highlighted the importance of effective communication strategies in bridging the physical distance between school and home.

The challenges faced by online schools are multifaceted. Woodworth et al. (2015) found that "students in online charter schools exhibited significantly weaker academic growth in both mathematics and reading compared to their peers in traditional public schools" (p. 28). This finding highlights the urgent need for targeted interventions and support systems in online learning environments, particularly for younger students who may require more guidance and structure in their educational journey. These challenges in online education, particularly for elementary students, have led to the identification of a crucial area for research and intervention.

Capstone Focus

The identification of this research focus stems from the persistent challenges faced by online schools in ensuring student success. Despite PAcyber's efforts to improve student engagement through various data-driven processes, test scores, attendance rates, and student retention rates have remained stagnant. However, research by Kraft and Rogers (2015) suggests that targeted communication can have a significant impact on student outcomes. Their study found that "weekly individualized messages from teachers to parents decreased the percentage of students who failed to earn course credit by 41%" (Kraft & Rogers, 2015, p. 957).

This compelling evidence, combined with observations from school leadership, has led to the investigation of the potential of enhanced communication strategies in improving student outcomes in the online elementary setting. Specifically, this study aims to examine the impact of increased phone communication between teachers and parents/guardians of third-grade students on attendance, academic achievement, and parental perceptions of their child's learning outcomes.

The focus on third-grade students is particularly significant, as this grade level represents a critical juncture in a child's educational journey. Hernandez (2011) found that "students who were not proficient in reading by the end of third grade were four times more likely to leave school without a diploma than proficient readers" (p. 3). This underscores the importance of targeted interventions and support during this crucial developmental stage.

This study will implement a structured communication protocol to enhance engagement between teachers and families. The protocol involves monthly phone calls

from teachers to parents/guardians throughout the school year. These calls will vary in duration based on individual student circumstances and will cover topics such as live class attendance, student performance data, and general check-ins. This approach aims to establish live voice-to-voice communication as the standard, complementing existing electronic communication methods. By formalizing this communication strategy, we seek to create a more personalized and effective connection between the school and families, potentially addressing the unique challenges of online education for elementary students.

Research Questions

To guide this investigation, the following research questions have been formulated:

1. How does increased phone communication with parents/guardians improve 3rd grade student attendance at PAcyber?

2. What effect does parent/guardian phone communication have on PAcyber 3rd grade student achievement as measured by final grades?

3. Does increased phone communication with parents/guardians enhance their perception of their child's learning outcomes?

These questions are designed to address key aspects of student success in online learning environments, focusing on attendance, academic achievement, and parental engagement. By examining these factors, we aim to develop a comprehensive understanding of the impact of targeted communication strategies on student outcomes.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Expected Outcomes

This study aims to implement a structured communication protocol based on Epstein's Model of School, Family, and Community Partnerships (Epstein, 2018). We anticipate seeing improvements in several key areas. First, increased student attendance rates for live sessions are expected among the current cohort of 3rd-grade students compared to past cohorts. This addresses the unique challenges of "cybertruancy" identified by Archambault et al. (2013), highlighting the need for innovative approaches to monitoring and improving attendance in online settings. Second, improved academic performance is anticipated as measured by final grades for the current 3rd-grade cohort compared to previous years. This builds on the positive outcomes observed in previous studies on targeted communication, such as Kraft and Dougherty's (2013) finding that "frequent teacher-to-parent phone calls increased student engagement as measured by homework completion, in-class behavior, and participation" (p. 199). Lastly, enhanced parent perception of their child's learning progress and engagement is expected, fostering stronger school-family partnerships in the online learning environment. This will be measured through an online survey developed specifically for this research. Liu et al. (2020) found that effective school-home communication in online learning environments led to increased parental involvement, which in turn positively affected students' self-efficacy and academic performance.

The study will compare attendance and grade data from October to the end of the current school year against data from the past two 3rd-grade cohorts. This longitudinal comparison will provide insights into the effectiveness of the enhanced communication strategy over time. By examining these outcomes, the aim is to develop a comprehensive

understanding of how targeted communication can improve student success in online elementary education. While these expected outcomes focus on educational improvements, it is also crucial to consider the fiscal implications of this research, particularly considering recent legislative changes.

Fiscal Implications

Recent legislative changes in Pennsylvania have significant implications for cyber charter schools, particularly those with large special education populations like PAcyber. The passage of Act 55 has altered the calculation of special education tuition rates paid to cyber charter schools, with the new formula taking effect in January 2025 (PAcyber, 2024). This change is expected to have a substantial impact on PAcyber's funding, necessitating a strategic approach to resource allocation and student retention.

Considering these budgetary constraints, this research focuses on enhancing fiscal responsibility through a cost-effective communication strategy. By targeting an area that requires no new hiring or purchasing of products or programs, this approach aligns with current financial limitations while potentially yielding significant long-term benefits.

The proposed communication protocol leverages existing teacher responsibilities, specifically parent communication as outlined in Domain 4 of the Pennsylvania Framework for Teaching. This ensures that the research can be conducted without additional fiscal burden or violation of the Collective Bargaining Agreement.

The strategic design of this research offers multiple fiscal advantages. Primarily, it aims to improve student retention through enhanced parent engagement. As Ahn and McEachin (2017) observed, "online charter schools with higher academic performance

tend to see increased enrollment in subsequent years" (p. 50). Improved retention is crucial for PAcyber's financial sustainability, especially considering that enrolling new students is costly, with the first year representing the largest investment in resources and technology provision.

By fostering long-term relationships with parents and guardians, keeping them engaged and informed about their children's education, PAcyber can potentially increase student retention rates. This is particularly important as each year a student remains enrolled allows the school to recoup more of its initial investment, contributing to long-term financial stability.

Moreover, this approach emphasizes maximizing current resources and exploring innovative solutions that do not require significant financial investment. The potential for improved student performance and retention may generate positive fiscal impacts in the long term, without incurring additional costs. As Molnar et al. (2019) note, "student retention is a critical factor in the financial sustainability of online schools" (p. 45).

In conclusion, this research not only addresses educational challenges but also demonstrates a fiscally responsible approach to leadership in the face of changing funding landscapes. By focusing on communication strategies that can potentially improve student retention and performance, PAcyber aims to navigate the upcoming financial changes effectively while continuing to provide high-quality online education.

The implementation of targeted family communication strategies in online elementary education has far-reaching implications beyond the immediate scope of this study. By focusing on enhancing engagement between teachers and families, this research

addresses a critical gap in the current online education model. The potential benefits extend beyond academic performance and attendance, potentially impacting student motivation, self-efficacy, and long-term educational success. Furthermore, the findings from this study may inform policy decisions and best practices for online schools across various grade levels and geographic regions. Importantly, the communication protocol developed in this research is designed to be easily replicable and scalable. Other online schools and even traditional schools with remote learning components can adapt and implement this approach, potentially leading to widespread improvements in student outcomes. As the landscape of education continues to evolve, particularly in the wake of global events that have accelerated the adoption of online learning, research such as this becomes increasingly vital. It not only contributes to the body of knowledge in educational technology and family engagement but also provides practical, implementable strategies for educators and administrators in the rapidly growing field of online education.

Summary

This capstone project seeks to address the critical need for effective communication strategies in online elementary education. By examining the impact of targeted family communication on student engagement and learning outcomes, we aim to contribute valuable insights to the field of online education and provide actionable strategies for improving student success in virtual learning environments. The findings of this study have the potential to inform best practices not only for PAcyber but for online schools across the nation, ultimately enhancing the educational experience for thousands of young learners in online classrooms.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

      As we transition to Chapter 2, we will delve deeper into the existing literature on family engagement in online education, communication strategies, and their impact on student outcomes. This review will provide a solid foundation for our research methodology and help contextualize our findings within the broader field of online elementary education.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

CHAPTER 2

Review of the Literature

Setting and History

The landscape of K-12 education has undergone a significant transformation in recent years, with online learning emerging as a prominent mode of instruction. This shift is exemplified by the growth of cyber charter schools, such as the Pennsylvania Cyber Charter School (PAcyber), which has expanded from serving 50 local students in 1999 to educating approximately 11,000 students across Pennsylvania (PAcyber, 2024). The growth trajectory of virtual schools in the United States has been both substantial and rapid, with Molnar et al. (2019) reporting that in the 2017-18 academic year, 501 full-time virtual schools enrolled 297,712 students. Barbour (2019) further corroborated this trend, noting a 60% increase in K-12 online learning enrollment between 2013 and 2018.

However, this expansion has occurred concurrently with evidence of suboptimal performance in many virtual schools. Molnar et al. (2019) found that "only 48.5% of virtual schools with available ratings received acceptable performance ratings in the 2017-18 academic year" (p. 23). This performance issue is not isolated; Woodworth et al. (2015) conducted a comprehensive study of online charter schools across 17 states and found that "students in online charters lost an average of -0.10 standard deviations in math and -0.03 in reading compared with their peers in traditional public schools" (p. 28).

One of the key challenges in online education is monitoring and enforcing student engagement and attendance. Traditional definitions of attendance based on physical

presence are no longer applicable in virtual learning environments, necessitating new approaches to tracking and encouraging student participation (Archambault et al., 2013).

Considering these challenges, further investigation is needed to understand the impact of targeted family communication on student engagement and learning outcomes in online education, particularly focusing on elementary-level students in cyber charter schools. Such research could examine gaps in current understanding of how targeted communication strategies influence student success in online learning environments, especially at the elementary level. This area of inquiry is crucial for developing effective practices in virtual education and potentially improving outcomes for young learners in online settings.

Third Grade Focus

This study specifically focuses on third-grade students, a critical juncture in a child's educational journey. The choice of this grade level is supported by several key factors:

Transition in Reading Skills

Third grade is widely recognized as a critical juncture in a student's educational journey, marking the transition from "learning to read" to "reading to learn" (Chall, 1983). This shift is crucial for academic success across all subjects. As Fiester (2010) notes in a comprehensive report for the Annie E. Casey Foundation, "Up until the end of third grade, most children are learning to read. Beginning in the fourth grade, however, they are reading to learn, using their skills to gain more information in subjects such as

math and science, to solve problems, to think critically about what they are learning, and to act upon and share that knowledge in the world around them" (p. 9).

Predictor of Future Academic Success

Research has consistently shown that reading proficiency in third grade is a strong predictor of future academic performance. A landmark study by Hernandez (2011) found that students who were not proficient in reading by the end of third grade were four times more likely to leave school without a diploma than proficient readers. Specifically, "One in six children who are not reading proficiently in third grade do not graduate from high school on time, a rate four times greater than that for proficient readers" (Hernandez, 2011, p. 3).

High Stakes Testing Grade

In Pennsylvania, third grade is the first year students participate in the Pennsylvania System of School Assessment (PSSA), making it a critical year for measuring academic progress and identifying areas for improvement (Pennsylvania Department of Education, 2025).

Transitional Grade Level

Third grade often represents a transition from early elementary to upper elementary education, with increased academic expectations and independence (Fiester, 2010). This transition can be challenging for some students, potentially impacting engagement and attendance.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Parental Involvement Impact

Studies have shown that parental involvement in third grade has significant direct effects on academic achievement. As noted by Englund et al., (2004) "Parental involvement in 3rd grade had a significant direct effect on achievement in 3rd grade" (726).

To fully comprehend the dynamics of communication and engagement in online educational environments, it is essential to examine the theoretical frameworks that underpin these concepts.

Theoretical Frameworks for Communication and Engagement in Education

Three key models that establish a foundation for understanding the interplay between communication, family involvement, and student engagement in education are: Epstein's Model of School, Family, and Community Partnerships (Epstein, 2018), Hoover-Dempsey and Sandler's Model of Parental Involvement (Hoover-Dempsey et al., 2005), and the Community of Inquiry (CoI) Framework (Garrison et al., 2000). Each of these theoretical frameworks offers a distinct lens through which communication and engagement in online education can be understood and analyzed.

Epstein's Model of School, Family, and Community Partnerships

Epstein's Model offers a comprehensive framework for understanding the importance of communication in education (Epstein, 2018). Epstein (2018) identified six types of involvement: parenting, communicating, volunteering, learning at home, decision-making, and collaboration with the community. In the context of online

education, the communication aspect becomes particularly crucial, as it bridges the physical gap between school and home.

Epstein's model underpins this study's approach by emphasizing that effective communication, such as regular teacher-parent phone calls, must be bidirectional, clear, and consistent. In online learning environments, this translates to regular updates from teachers to parents about student progress, as well as channels for parents to easily speak to teachers with questions or concerns. Kraft and Rogers (2015) found that weekly individualized messages from teachers to parents decreased the percentage of students who failed to earn course credit by 41%, underscoring the power of consistent, personalized communication in supporting student achievement. This framework is particularly relevant to the study of targeted family communication in online education, as it emphasizes the importance of communication in fostering strong school-family partnerships. The model provides a foundation for understanding how effective communication strategies can enhance collaboration between schools and families in virtual learning environments.

Hoover-Dempsey and Sandler's Model of Parental Involvement

Hoover-Dempsey and Sandler's Model of Parental Involvement provides insights into why and how parents become involved in their children's education. This model suggests that parents' motivational beliefs, perceptions of invitations for involvement, and life context variables influence their decision to become involved (Hoover-Dempsey et al., 2005).

THE IMPACT OF TARGETED FAMILY COMMUNICATION

In an online setting, clear and frequent communication from teachers can serve as a strong invitation for parental engagement. Borup et al. (2013) found that parents in online schools spent an average of 86 minutes per week engaged in their child's schooling, often through direct phone conversations with teachers. This level of involvement, enabled by intentional communication, was positively associated with student performance.

Building on this perspective, Borup (2016) found that teacher perceptions of parent engagement significantly influenced how they planned instruction and initiated communication. When teachers viewed parents as instructional partners, they were more likely to engage in proactive outreach and personalize feedback. This reinforces the idea that communication not only invites participation but also fosters collaborative relationships that enhance student success in virtual environments.

Community of Inquiry (CoI) Framework

The Community of Inquiry (CoI) framework, developed by Garrison et al. (2000), is particularly relevant to online learning environments. This model emphasizes the importance of three interdependent elements: social presence, cognitive presence, and teaching presence. Effective communication strategies can enhance all three elements, contributing to a more engaging online learning experience (Garrison, 2017).

Social presence refers to the ability of participants to identify with the community, communicate purposefully in a trusting environment, and develop interpersonal relationships. In online settings, this can be fostered through interactive discussion forums, virtual group projects, and personalized communication from teachers.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Cognitive presence is the extent to which learners can construct and confirm meaning through sustained reflection and discourse. This can be supported through thought-provoking online discussions, challenging assignments, and regular feedback from instructors.

Teaching presence involves the design, facilitation, and direction of cognitive and social processes to realize personally meaningful and educationally worthwhile learning outcomes. In online environments, this manifests through clear course structure, timely communication, and active facilitation of online interactions.

Borup et al. (2014) applied the CoI framework to online high school settings and found that teachers who effectively engaged with students and their parents saw improved student outcomes. This underscores the importance of teacher presence and communication in online learning environments, suggesting that active teacher engagement can help bridge the physical distance in virtual classrooms. This framework is crucial for understanding how targeted family communication might enhance social, cognitive, and teaching presence in online learning environments. It provides a lens through which to examine the potential impact of communication strategies on student engagement and learning outcomes in virtual educational settings.

These theoretical frameworks collectively provide a comprehensive foundation for research into communication, engagement and the relationship to student success. Each highlight the critical role of communication in fostering family involvement, creating a sense of community, and enhancing the learning experience in online education. By examining the impact of targeted family communication through these lenses, one can better understand how such strategies might influence student

THE IMPACT OF TARGETED FAMILY COMMUNICATION

engagement and learning outcomes in online elementary education. Building upon these frameworks and potentially extending their application in the context of online learning and contributing to the understanding of effective communication strategies in virtual educational environment is possible.

Current Methods of Communication Being Utilized

In the rapidly evolving landscape of K-12 education, particularly in online and blended learning environments, effective communication between schools, teachers, students, and parents has become increasingly crucial. Research indicates that strong communication practices are essential for fostering student engagement and success in these settings (Garrison et al., 2000; Molnar et al., 2019). The current methods of communication used in both traditional and virtual educational settings, with a focus on their application and effectiveness in online learning environments can be examined.

Use of Electronic Communication

   Email Communication.
       Email remains a primary mode of communication in many educational settings. Thompson et al. (2015) found that 73% of parents preferred email as their primary mode of communication with teachers, citing its convenience and ability to overcome scheduling conflicts. However, the effectiveness of email can vary depending on factors such as frequency, content, and timeliness of responses.

   Text Message Communication.
       Text messaging has emerged as an effective tool for school-home communication, particularly for quick updates and reminders. Kraft and Rogers (2015) conducted a field

THE IMPACT OF TARGETED FAMILY COMMUNICATION

experiment examining the impact of text messages from teachers to parents. The

researchers found that weekly individualized messages decreased the percentage of

students who failed to earn course credit by 41%, highlighting the power of targeted,

frequent communication in improving student outcomes.

Social Media Communication.

Many schools have adopted social media platforms as a means of communication.

Williamson (2017) noted that platforms such as Facebook and Twitter allow schools to

share real-time updates, celebrate student achievements, and build a sense of community.

However, he also cautioned about the need for clear policies on social media use to

maintain professionalism and privacy.

Learning Management Systems (LMS).

Learning Management Systems have become central to communication in online

and blended learning environments. Molnar et al. (2019) noted that virtual schools

heavily rely on LMS platforms to facilitate not only instruction but also communication

between teachers, students, and parents. These systems often include features for

messaging, assignment submissions, and grade tracking, thereby providing a

comprehensive communication ecosystem.

Written Communication.

Despite the rise in digital communication, traditional written methods still play a

significant role. Epstein (2018) emphasized the importance of various written

communication methods, including newsletters, report cards, and progress reports. These

written forms provide tangible records of student progress and school information that

families can reference over time.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

In the context of online schools, Archambault et al. (2013) highlighted the importance of clear, written policies and procedures. The authors noted that online schools often rely heavily on written communication to outline expectations, deadlines, and course requirements given the lack of face-to-face interaction.

Voice Communication.

Telephone Calls.

Although digital methods have gained prominence, voice communication remains vital, especially for more complex or sensitive discussions. Borup et al. (2013) demonstrated that parents in online schools, spending an average of 86 minutes per week in direct communication with teachers, engaged in their child's schooling, often through phone conversations with teachers.

Video Conferencing.

The COVID-19 pandemic accelerated the adoption of video communication tools in education. Platforms like Zoom, Google Meet, and others have become common for parent-teacher conferences, IEP meetings, and even classroom instruction in virtual settings. Morgan (2020) found that video-conferencing tools allowed for more frequent and flexible communication between teachers and families during periods of remote learning.

Adaptive Communication Strategies

Recognizing the diverse needs of families, many schools have adopted adaptive communication strategies. Goodall and Montgomery (2014) proposed a model of parental engagement that emphasizes the need for schools to adapt their communication methods

based on family preferences and needs. This approach recognizes that one-size-fits-all communication strategies are often ineffective in diverse school communities.

In conclusion, the current landscape of school-home communication in online education is characterized by a diverse array of methods, each with its own strengths and challenges. While electronic communication has become predominant, effective strategies often involve a combination of methods tailored to the needs of the school community. The research highlights the potential of targeted, frequent communication in improving student outcomes. For instance, Kraft and Rogers (2015) found that weekly individualized messages from teachers to parents decreased the percentage of students who failed to earn course credit by 41%, underscoring the power of consistent, personalized communication in supporting student achievement. This finding is particularly relevant to investigations into the impact of targeted family communication on student engagement and learning outcomes in online education. The effectiveness of these communication methods, however, may vary depending on the educational level of the students involved. As we transition to examining family and parent engagement across educational levels, it's crucial to consider how the communication strategies discussed here might be adapted or applied differently for elementary, middle, and high school students in online learning environments. This next section will provide insights into how the nature of family engagement evolves as students progress through their educational journey, further informing understanding of effective communication strategies in online education.

Family & Parent Engagement Across Educational Levels

THE IMPACT OF TARGETED FAMILY COMMUNICATION

The nature and impact of family and parent engagement in education vary significantly across different educational levels, particularly in online learning environments. Understanding these differences is crucial for developing effective communication strategies to support student success across all grade levels. This knowledge is central to investigations into the impact of targeted family communication on student engagement and learning outcomes in online education.

Elementary School Setting

In the elementary school setting, parental involvement tends to be more hands-on and direct, especially in online learning environments. Borup et al. (2013) found that parents of younger online students often assume the role of learning coaches, spending significant time directly engaging in their children's schooling. This high level of involvement is crucial for younger students, who may lack the self-regulation skills necessary for independent online learning.

Hasler Waters et al. (2014) identified specific types of parental engagement in online elementary schools:

- Encouraging and reinforcing learning behaviors

- Modeling effective learning strategies

- Instructing students in content areas

- Adapting strategies to meet individual student needs

- Leveraging external resources to support learning

THE IMPACT OF TARGETED FAMILY COMMUNICATION

These findings highlight the multifaceted role that parents play in supporting their young children's online education. Liu et al. (2020) found that parental involvement in elementary online learning during the COVID-19 pandemic was positively associated with students' self-efficacy and academic performance, emphasizing the importance of parents' emotional support and guidance for younger students.

Middle School and High School Settings

As students progress to middle and high schools, the nature of parental engagement often shifts. Curtis and Werth (2015) identified three main types of parental engagement at the secondary level in online learning:

- Monitoring student progress

- Mentoring students through academic challenges

- Motivating students to stay engaged in their studies

This shift reflects the increasing independence of older students and the changing needs of adolescent learners in the online environment. Hill and Tyson (2009) conducted a meta-analysis of parental involvement in middle school and found that academic socialization—communicating parental expectations for education and its value—had the strongest positive relationship with achievement. Borup et al. (2014) developed the Adolescent Community of Engagement (ACE) framework, which hypothesizes that parents of online high school students have three main responsibilities:

- Organizing students' environment and time

- Instructing students in content and learning strategies

- Facilitating student interactions through nurturing relationships, volunteering, and monitoring/motivating

This framework provides a comprehensive view of how parental engagement can support online adolescent learners.

Challenges and Opportunities Across Levels

Although the nature of parental engagement may change across educational levels, certain challenges and opportunities remain consistent. Archambault et al. (2013) introduced the concept of "cybertruancy," highlighting the need for parental involvement in monitoring attendance and engagement across all grade levels in online schools. Kraft and Rogers (2015) found that weekly individualized messages from teachers to parents decreased the percentage of students who failed to earn course credit by 41%. This finding suggests that consistent communication between schools and families is crucial at all levels of education, highlighting the importance of targeted family communication strategies in online learning environments. Recent research by Borup et al. (2019) has highlighted the importance of parent-student-teacher relationships in online learning environments. The researchers found that these relationships were most effective when all parties clearly defined roles and expectations, regardless of student age or grade level.

Impact of COVID-19 on Family Engagement

The COVID-19 pandemic has significantly affected family engagement in online learning across all educational levels. Dong et al. (2020) found that parental involvement increased dramatically during the pandemic, with parents taking on more active roles in their children's education, regardless of age. This shift highlights both the challenges and

opportunities for increased family engagement in online learning. Garbe et al. (2020) conducted a qualitative study on parents' experiences with online learning during the pandemic. The research found that parents across all grade levels faced challenges in balancing work and home responsibilities while supporting their children's learning. However, many parents also reported increased awareness and involvement in their children's education, leading to stronger family-school partnerships.

In conclusion, while the specific strategies and intensity of family and parent engagement may vary across educational levels, their importance in supporting student success in online learning environments remains constant. As Borup et al. (2019) emphasize, "parent-student-teacher relationships in online learning environments were most effective when all parties clearly defined roles and expectations, regardless of student age or grade level" (p. 3080). This underscores the universal importance of family engagement across all educational stages.

As online education continues to evolve, understanding and supporting effective family engagement practices at all levels is crucial for ensuring positive student outcomes. Garbe et al. (2020) highlight this point, noting that during the COVID-19 pandemic, "many parents reported increased awareness and involvement in their children's education, leading to stronger family-school partnerships" (p. 52). This understanding directly informs investigations into the impact of targeted family communication on student engagement and learning outcomes in online education, particularly for third-grade students.

The insights gained from examining family engagement across educational levels provide valuable context for exploring how communication strategies may influence

student success in virtual learning environments at the elementary level. As Hill and Tyson (2009) conclude, "academic socialization—communicating parental expectations for education and its value—had the strongest positive relationship with achievement" (p. 758), emphasizing the critical role of effective communication in supporting student success.

As we have seen, the nature of family engagement varies across educational levels. However, the effectiveness of this engagement is also influenced by the mode of communication employed. In the next section, we will examine the comparative effectiveness of different communication methods and their impact on student learning outcomes.

Mode of Engagement and Its Effectiveness

The effectiveness of parent engagement in online education is significantly influenced by the mode of communication employed. This section examines the comparative effectiveness of various communication methods and their impact on student outcomes, directly informing our research on targeted family communication in online education.

Electronic vs. Written vs. Voice Communication

In the digital age, schools have a variety of communication tools at their disposal. Thompson et al. (2015) found that 73% of parents preferred email as their primary mode of communication with teachers, citing its convenience and ability to overcome scheduling conflicts. However, the effectiveness of different communication modes can vary significantly.

Kraft and Rogers (2015) conducted a field experiment examining the impact of text messages from teachers to parents. The authors found that "weekly individualized messages from teachers to parents decreased the percentage of students who failed to earn course credit by 41%" (p. 957). This section examines the comparative effectiveness of various communication methods and their impact on student outcomes, providing insights into the potential effects of targeted family communication on student engagement and learning outcomes in online education.

While electronic communication has gained prominence, voice communication, particularly phone calls, remains an important tool, especially for more complex or sensitive discussions. Borup et al. (2013) demonstrated that parents in online schools spent an average of 86 minutes per week in direct communication with teachers, often through phone conversations. This level of engagement was positively correlated with student performance, suggesting that regular, direct communication between parents and teachers can play a crucial role in supporting student success in an online environment.

Written communication, though less immediate than electronic or voice methods, still plays a significant role. Epstein (2018) emphasized the importance of various written communication methods, including newsletters, report cards, and progress reports. These written forms provide tangible records of student progress and school information that families can reference over time.

Positive vs. Negative Engagement

The content and tone of communication can significantly affect its effectiveness. Kraft and Dougherty (2013) found that frequent teacher-to-parent phone calls increased

student engagement as measured by homework completion, in-class behavior, and participation. However, the nature of feedback can influence outcomes. Harackiewicz et al. (2016) found that providing parents with information about the utility value of STEM courses led to increased student enrollment in STEM classes. This suggests that positive, informative communication can be effective in influencing students' choices and engagement.

Interestingly, Yeager et al. (2014) provided a nuanced perspective on constructive criticism: "Critical feedback, when coupled with high standards and assurance of students' ability to meet those standards, can be more motivating than praise alone" (p. 804). This indicates that constructive criticism, when appropriately delivered, can be an effective form of engagement.

Frequency and Timing of Communication

The frequency and timing of communication can also affect its effectiveness. Bergman and Chan (2021) found that high-frequency information sent to parents via text messages had a significant positive impact on student achievement in online learning environments. Their study revealed that "text messages to parents about their child's missing assignments and grades increased student achievement by 0.10 standard deviations" (p. 2). This highlights the importance of consistent and timely communication in understanding the potential impact of targeted family communication in online education.

However, Kraft and Monti-Nussbaum (2017) cautioned against overwhelming parents with too much information. The researchers found that while increased

communication generally improved student outcomes, there was a point of diminishing returns, suggesting the need for a balanced approach.

In conclusion, the effectiveness of engagement in online learning environments depends on various factors, including the mode of communication, nature of the content, frequency and timing of interactions, and the degree of personalization. As Goodall and Montgomery (2014) noted, "Schools need to adapt their communication methods based on family preferences and needs, recognizing that one-size-fits-all communication strategies are often ineffective in diverse school communities" (p. 399). This adaptive approach is particularly crucial in online learning environments, where the physical distance between school and home necessitates more intentional and varied communication strategies.

These findings directly inform research questions about the impact of targeted family communication on student engagement and learning outcomes in online education. The literature suggests that a carefully designed communication strategy, tailored to the needs of individual families and leveraging appropriate technology, could significantly enhance student success in online learning environments.

Impacts of Communication on Student Learning

The impact of communication among schools, teachers, and parents on student learning outcomes is a critical area of study, particularly in the context of online education. Research consistently demonstrates that effective communication and engagement strategies can significantly influence student attendance, academic performance, and overall engagement in online learning environments.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Attendance and Engagement

Attendance in online settings presents unique challenges compared to traditional schools. Epstein and Sheldon (2002) found that specific school-family partnership practices in elementary schools resulted in increased daily attendance and a decrease in chronic absenteeism. While their study focused on traditional schools, the principles may be applicable to online settings, highlighting the importance of strong school-family connections in promoting consistent attendance.

Archambault et al. (2013) concept of "cybertruancy" in online schools underscores the need for innovative methods to encourage student participation in online classes, where traditional seat-time measures are no longer applicable. Archambault et al. (2013) defines cybertruancy as "a student enrolled in an online course who fails to log in, participate, and complete course requirements" (p. 2), emphasizing the unique challenges of monitoring and promoting engagement in virtual environments.

Recent research has demonstrated the significant impact of strong school-family connections on student attendance and engagement. A study by Epstein and Sheldon (2002) found that specific school-family partnership practices in elementary schools resulted in increased daily attendance and a decrease in chronic absenteeism. Their research showed that when schools implemented family and community involvement activities focused on attendance, the study saw an average decrease of 0.5% in chronic absenteeism rates.

Furthermore, a meta-analysis conducted by Jeynes (2012) examined the relationship between parental involvement programs and academic achievement. The

THE IMPACT OF TARGETED FAMILY COMMUNICATION

study found that such programs were associated with statistically significant positive

effects on academic achievement across all grade levels, with an effect size of 0.30

standard deviations. This suggests that targeted communication strategies and family

engagement initiatives can have a substantial impact on student outcomes, including

attendance and engagement in both traditional and online learning environments.

These findings highlight the potential of well-designed family communication and

engagement strategies to positively influence student attendance and overall academic

performance in various educational settings, including online learning environments.

Academic Performance

The positive impact of targeted communication on academic performance has

been demonstrated in several studies. Kraft and Rogers (2015) conducted a field

experiment to examine the impact of teacher-to-parent communication on students'

engagement. The authors found that "weekly individualized messages from teachers to

parents decreased the percentage of students who failed to earn course credit by 41%" (p.

957). This dramatic improvement highlights the power of consistent, personalized

communication to support student achievement.

Similarly, Bergman and Chan (2021) found that high-frequency information sent

to parents via text messages had a significant positive impact on student achievement in

online learning environments. The team noted that "text messages to parents about their

child's missing assignments and grades increased student achievement by 0.10 standard

deviations" (p. 2). This study emphasizes the importance of leveraging technology to

maintain consistent communication between teachers and parents, particularly in online

settings, where face-to-face interactions are limited.

Fan and Chen (2001) conducted a meta-analysis of the relationship between parental involvement and students' academic achievement. The research found a meaningful effect size of about 0.25 to 0.30, indicating a significant positive relationship between parental involvement and academic achievement. Specifically, it noted that parental aspiration and expectation for children's educational achievement had the strongest relationship with students' academic performance.

Additionally, Jeynes (2005) conducted a meta-analysis focusing on urban elementary school children and found that parental involvement was associated with higher academic achievement across all racial groups and for both boys and girls. The study reported an overall effect size of about 0.7 to 0.75 of a standard deviation unit, which is considered a medium to large effect in educational research.

These meta-analyses provide robust evidence supporting the link between family engagement and academic success, showing that students tend to perform better academically when their parents are actively involved in their education.

Participation and Engagement

Engagement is a critical factor in online learning, where students may feel isolated or disconnected. Borup et al. (2014) studied teacher engagement at an online high school and found that teachers who effectively engaged with students and their parents saw improved student outcomes. Borup et al. concluded that "teachers' efforts to engage with students and parents were positively correlated with student engagement and learning outcomes" (p. 793). Doss et al. (2019) further illustrate the importance of tailored communication. The researchers found that differentiated and personalized text messages to kindergarten students' parents led to increased engagement in literacy

activities at home and improved student literacy scores. Their study revealed that "personalized text messages increased parents' engagement in home literacy activities by 0.31 standard deviations" (p. 508). This highlights the importance of tailoring communication to individual students' needs and family contexts in online settings. Kraft and Dougherty (2013) found that frequent teacher-to-parent phone calls increased student engagement as measured by homework completion, in-class behavior, and participation in a traditional school setting. The authors reported that "students whose parents received phone calls completed 6.9 percentage points more assignments and were 7.9 percentage points more likely to participate in class" (p. 199). While conducted in a face-to-face context, these findings suggest that regular direct communication between teachers and parents can have a significant positive impact on student engagement, a principle that may be applicable in online learning environments.

Social and Emotional Learning

The impact of communication extends beyond academic performance to include social and emotional aspects of learning. Research has consistently shown that parental involvement and engagement have positive effects on students' social-emotional development and behavior. Fan and Chen (2001), in their meta-analysis of studies on parental involvement and students' academic achievement, found that parental involvement was also associated with improved social and behavioral outcomes.

Furthermore, a comprehensive review by Henderson and Mapp (2002) concluded that students with involved parents, regardless of income or background, were more likely to earn higher grades and test scores, attend school regularly, have better social

skills, show improved behavior, and adapt well to school. This finding underscores the importance of effective school-home communication in supporting students' overall well-being.

Additionally, Jeynes' (2005) meta-analysis focusing on urban elementary school children found that parental involvement was associated with higher academic achievement and improved social-emotional outcomes across all racial groups and for both boys and girls. These studies collectively emphasize the crucial role of school-home communication and parental engagement in fostering students' holistic development.

Dong et al. (2020) conducted a mixed-methods study examining the impact of multimodal communication in synchronous online environments. The research found that different modes of communication (visual, bodily behaviors, spoken language, and written language) influenced students' social presence, teaching presence, and satisfaction with the online learning experience. Their research highlights the importance of considering various communication modalities in online education to enhance student engagement and learning outcomes.

Teacher-Student Relationships

Effective communication also plays a crucial role in building strong teacher-student relationships, which are vital for student success. Borup et al. (2014) studied teacher engagement at an online high school and found that teachers who effectively engaged with students and their parents saw improved student outcomes. The authors concluded that "teachers' efforts to engage with students and parents were positively correlated with student engagement and learning outcomes" (p. 793).

In conclusion, these findings underscore the critical importance of effective communication strategies in online education. As virtual learning continues to grow, understanding and implementing these strategies have become increasingly vital for ensuring student success. The research suggests that a combination of regular, personalized communication, leveraging of technology for frequent updates, and support for parental involvement can significantly enhance student outcomes in online learning environments.

Future research should focus on developing and evaluating targeted communication interventions specifically designed for online educational settings, with a particular emphasis on their long-term impact on student achievement and engagement. Additionally, exploring ways to streamline communication technologies and make them more accessible to all families could be a fruitful area for further investigation.

Impacts of Communication on the School Community

Effective communication strategies in online education not only influence individual student outcomes but also shape the broader school community. This section examines how communication impacts the overall learning environment, particularly in virtual settings, and how these community-level effects relate to student engagement and learning outcomes.

Building a Virtual School Community

In online learning environments, creating a sense of community presents unique challenges. Borup et al. (2014) applied the Community of Inquiry (CoI) framework to online high schools and found that effective communication strategies were crucial in

fostering a sense of community among students, parents, and teachers. The researchers noted that "when teachers actively engaged in communication efforts, students reported a stronger sense of connection to the school and their peers" (p. 795).

Garrison (2017) emphasized that in online settings, social presence, the ability of participants to identify with the community and communicate purposefully in a trusting environment is particularly important. Regular, multi-modal communication (e.g., video conferences, discussion forums, and personalized messages) can help bridge the physical distance and create a more cohesive virtual school community.

Parental Involvement and School Climate

Goodall and Montgomery (2014) proposed a model of parental engagement that emphasizes the need for schools to adapt their communication methods based on family preferences and needs. In online schools, this adaptive approach becomes even more critical. Their research suggests that when schools effectively communicate and engage parents, it positively impacts the overall school climate.

A study by Liu et al. (2020) during the COVID-19 pandemic found that effective school-home communication in online learning environments led to increased parental involvement, which in turn positively affected students' self-efficacy and academic performance. This highlights the interconnected nature of communication, community involvement, and student outcomes in virtual settings.

Teacher-Parent Relationships and Collaborative Problem-Solving

Kraft and Rogers (2015) found that regular, personalized communication between teachers and parents not only improved individual student outcomes but also fostered a more collaborative problem-solving approach within the school community. In online settings, where face-to-face interactions are limited, such collaboration becomes even more crucial. Borup et al. (2013) noted that in online schools, parents often take on roles as learning coaches. Effective communication between teachers and these parent-coaches is essential for creating a supportive learning environment. The authors found that "when teachers and parents communicate regularly, it led to more consistent expectations and support for students across home and school environments" (p. 156).

Impact on School Policies and Practices

Archambault et al. (2013) highlighted how communication strategies in online schools can influence school policies and practices. Their research on "cybertruancy" led to the development of new attendance policies and communication protocols in many online schools. This demonstrates how effective communication can drive systemic changes that benefit the entire school community.

Cultural Responsiveness and Inclusivity

Goodall (2021) emphasized the importance of culturally responsive communication in building inclusive school communities, particularly in diverse online learning environments. She found that "when schools adopted culturally sensitive communication strategies, it led to increased engagement from families from diverse backgrounds, fostering a more inclusive school community" (p. 87).

In conclusion, effective communication strategies in online education have far-reaching impacts on the school community. By fostering a sense of connection, facilitating collaboration, and promoting inclusivity, these strategies create a supportive virtual learning environment. As Borup et al. (2014) note, "when teachers actively engaged in communication efforts, students reported a stronger sense of connection to the school and their peers" (p. 795). This community-level impact, in turn, positively influences individual student engagement and learning outcomes.

Furthermore, Goodall (2021) emphasizes that "when schools adopted culturally sensitive communication strategies, it led to increased engagement from families from diverse backgrounds, fostering a more inclusive school community" (p. 87). As online education continues to evolve, understanding and leveraging these community-level effects will be crucial for developing comprehensive strategies to support student success in virtual learning environments.

Opportunities for Research in the Literature

While the body of research on communication and engagement in online education has grown significantly in recent years, several gaps remain, particularly in relation to elementary-level online education and the specific impacts of targeted communication strategies. This section will identify these gaps and discuss how the present study aims to address the gaps.

Limited Focus on Elementary Online Education

Much of the existing research on online education has focused on secondary and higher education settings. For instance, Borup et al. (2014) developed the Adolescent

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Community of Engagement (ACE) framework for online high school students, but similar comprehensive frameworks for elementary students are lacking. Hasler Waters et al. (2014) noted: "While research on K-12 online learning has increased in recent years, studies focusing specifically on elementary online education remain scarce" (p. 35). This gap is particularly significant given the unique developmental needs and learning characteristics of younger students.

Lack of Longitudinal Studies on Communication Impacts

While studies like Kraft and Rogers (2015) have demonstrated short-term impacts of targeted communication on student outcomes, there is a dearth of longitudinal research examining the long-term effects of sustained communication strategies in online settings. Molnar et al. (2019) highlighted this gap, stating: "More longitudinal studies are needed to understand the cumulative effects of various communication and engagement strategies on student outcomes in virtual schools" (p. 87).

Limited Research on Voice Communication in Online Settings

Despite the prevalence of digital communication tools, research on the specific impacts of voice communication (e.g., phone calls) in online educational settings is limited. While Borup et al. (2013) touched on this aspect, their study was not focused exclusively on voice communication. There is a need for more targeted research in this area, especially given the personal nature of voice communication and its potential to build stronger relationships between teachers and families.

Insufficient Attention to Parent Perceptions in Online Elementary Education

While parent perceptions have been studied in traditional and secondary online education settings, there is limited research specifically examining how parents of elementary-aged students perceive the impact of communication on their children's learning outcomes. Dong et al. (2020) noted: "The unique perspectives of parents navigating online elementary education for their children remain underexplored in the current literature" (p. 412).

Lack of Studies on Communication Frequency and Student Outcomes

While studies have examined the impact of communication on student outcomes, there is limited research on the optimal frequency of communication in online settings, particularly for elementary students. Kraft and Monti-Nussbaum (2017) touched on this issue but did not provide definitive guidelines for elementary online education.

Summary of Key Findings

This literature review has explored the critical role of targeted family communication in enhancing student engagement and learning outcomes in online education, with a particular focus on elementary-level students. The research examined consistently demonstrates the significant impact of effective communication strategies on various aspects of student success in virtual learning environments. Several key findings emerge from this review, highlighting the multifaceted nature of effective communication in online education.

Regular, personalized communication between teachers and parents/guardians has been shown to significantly improve student outcomes (Bergman & Chan, 2021; Kraft & Rogers, 2015). This finding underscores the importance of tailored, frequent interactions

THE IMPACT OF TARGETED FAMILY COMMUNICATION

in supporting student success. Additionally, the unique challenges of monitoring

attendance and engagement in online settings have been identified, necessitating

innovative approaches to combat "cybertruancy" and ensure active participation in virtual

classrooms (Archambault et al., 2013). Parental involvement has emerged as a crucial

factor in supporting online learning, particularly for younger students who may require

more guidance and structure in their educational journey (Borup et al., 2013; Hasler

Waters et al., 2014).

The effectiveness of multi-modal communication strategies that leverage both

traditional and digital tools has been demonstrated (Goodall & Montgomery, 2014;

Thompson et al., 2015), suggesting that a diverse approach to communication can better

meet the needs of various families and educational contexts. Finally, targeted

communication has been found to have a positive impact on student academic

performance, engagement, and motivation (Borup et al., 2014; Kraft & Dougherty, 2013),

reinforcing the potential of well-designed communication strategies to enhance the

overall learning experience in online education.

Connection to Research Questions

*How does increased phone communication with parents/guardians improve 3rd grade
student attendance at PAcyber?*

The literature suggests that regular communication with parents can significantly

improve student attendance and reduce truancy (Archambault et al., 2013; Epstein &

Sheldon, 2002). The concept of "cybertruancy" highlights the need for innovative

approaches to monitoring and improving attendance in online settings, which increased phone communication may address.

What effect does parent/guardian phone communication have on PAcyber 3rd grade student achievement as measured by final grades?

Multiple studies have demonstrated a positive correlation between increased teacher-parent communication and improved student academic performance (Bergman & Chan, 2021; Kraft & Rogers, 2015). This suggests that increased phone communication with parents/guardians may positively impact 3rd grade student achievement at PAcyber.

Does increased phone communication with parents/guardians enhance their perception of their child's learning outcomes?

While this question is not directly addressed in the existing literature, studies have shown that increased communication can lead to greater parental involvement and understanding of their child's education (Borup, 2016; Hasler Waters et al., 2014). This increased involvement and understanding may positively influence parents' perceptions of their child's learning outcomes.

Summary

In conclusion, effective communication strategies in online education have far-reaching impacts on the school community. These strategies foster a sense of connection, facilitate collaboration, and promote inclusivity, creating a supportive virtual learning environment. Research consistently demonstrates that regular and personalized communication between teachers and parents is vital for improving student outcomes (Bergman & Chan, 2021; Kraft & Rogers, 2015). Additionally, the unique challenges of

monitoring attendance and engagement in online settings necessitate innovative

approaches to combat issues like "cybertruancy" (Archambault et al., 2013). The

involvement of parents plays a crucial role in supporting online learning, particularly for

younger students who may require more guidance (Borup et al., 2013; Hasler Waters et

al., 2014).

As online education continues to evolve, understanding how to effectively engage

families and support young learners becomes increasingly crucial. The insights gained

from examining family engagement across educational levels provide valuable context

for exploring how communication strategies may influence student success in virtual

learning environments at the elementary level. Furthermore, the effectiveness of these

communication methods may vary depending on the educational level of the students

involved. As such, it is essential to consider how the communication strategies discussed

here might be adapted or applied differently for elementary, middle, and high school

students in online learning environments. This next section will provide insights into how

the nature of family engagement evolves as students progress through their educational

journey, further informing understanding of effective communication strategies in online

education.

CHAPTER 3

Methodology

The Pennsylvania Cyber Charter School (PAcyber) was established in 2000 as a response to Pennsylvania's Charter School Law. Initially known as the Western Pennsylvania Cyber Charter School, it was created to serve approximately 50 students displaced due to the Midland School District's lack of a high school. However, due to high demand from across the state, it evolved into PAcyber, which served around 11,000 students by 2025. PAcyber's mission was to empower all students and families to become active participants in their own learning, equipping them with skills for the future through engaging content, innovative teaching, and a culture of caring (PAcyber, 2024).

PAcyber offered multiple modes of delivery, including Blended Classroom (BC) and Virtual Classroom (VC) models (PAcyber, 2024). Research indicated that both BC and VC approaches enhanced student outcomes when effectively implemented. Blended learning, which combined online and face-to-face elements, had been shown to improve student engagement, self-directed learning, and academic performance compared to purely online or traditional face-to-face instruction (Department of Education & National Center for Education Statistics, 2015; Youngers et al., 2014). Similarly, virtual classrooms provided opportunities for synchronous interaction and collaboration, fostering a sense of community and improving motivation among learners (Ismail & Abdulla, 2019). These findings highlighted the potential of both models to address challenges in online education, such as disengagement and lower academic achievement. Given that both Blended Classroom and Virtual Classroom models relied on active

THE IMPACT OF TARGETED FAMILY COMMUNICATION

student participation, this study explored how targeted family communication further enhanced engagement and performance within these delivery modes.

PAcyber continued to face challenges in maintaining student engagement and achieving academic outcomes that aligned with state averages. Studies showed that virtual schools often struggled with student performance due to factors such as limited parental involvement and difficulties in monitoring engagement (Archambault et al., 2013; Molnar et al., 2019). Recognizing the unique nature of online learning, where students engaged in their schoolwork from home, partnerships with parents and guardians were essential for supporting student success. Research underscored the critical role of parental involvement in improving attendance, engagement, and academic performance in online settings (Borup et al., 2013; Epstein & Sheldon, 2002).

This study was specifically designed to address several notable gaps in the existing literature on online education, family communication, and student engagement. Research on online education had predominantly focused on secondary and higher education settings, leaving elementary-level online education underexplored. Scholars such as Hasler Waters et al. (2014) emphasized the scarcity of studies addressing the unique developmental needs and learning characteristics of younger students in virtual learning environments. By focusing on 3rd grade students, this study contributed to filling this gap by offering insights into how targeted communication strategies supported younger learners.

Another significant gap lay in the limited research on voice communication, such as phone calls, within online educational settings. While digital communication methods like email and text messaging had been widely studied (Kraft & Rogers, 2015), the

specific impacts of voice-based interactions remained underexplored. Borup et al. (2013) highlighted the potential of phone calls to enhance teacher-parent relationships and support student outcomes; however, their work did not focus exclusively on this mode of communication. This study built on their findings by investigating how structured monthly phone calls between teachers and parents influenced student engagement and academic performance.

Parent perceptions of communication strategies in online elementary education also remained an underexamined area. Existing research had largely concentrated on parental involvement in traditional or secondary school settings (Dong et al., 2020). There was limited understanding of how parents of elementary-aged students perceived the effectiveness of communication strategies in supporting their children's learning. By incorporating a parent perception survey, this study provided valuable insights into how targeted communication impacted parental understanding and engagement in an online elementary school context.

Additionally, much of the existing research examined short-term impacts of communication strategies but lacked longitudinal perspectives. Studies like Kraft and Rogers (2015) demonstrated immediate benefits of frequent teacher-parent communication but did not explore sustained effects over time. This study addressed this limitation by comparing baseline data from one academic year with intervention data from another year, offering a more comprehensive view of the long-term impact of structured teacher-parent communication.

Finally, there was little guidance in the literature regarding the optimal frequency of communication for elementary students in online settings. While high-frequency

THE IMPACT OF TARGETED FAMILY COMMUNICATION

communication had been shown to improve outcomes (Bergman & Chan, 2021), studies

had not established what constituted an effective balance for younger learners. This

research explored whether monthly phone calls provided sufficient consistency to foster

engagement and improve outcomes without overwhelming families or teachers.

By addressing these gaps, this study contributed to the growing body of

knowledge on effective family engagement strategies in online education. It provided

actionable insights into how targeted communication enhanced student success at a

critical developmental stage while also informing best practices for virtual learning

environments.

Purpose

This study investigated the impact of increased phone communication between

teachers and parents/guardians on 3rd-grade student engagement and learning outcomes

in an online educational setting at PAcyber. The research focused on three key research

questions:

***How did increased phone communication with parents/guardians improve 3rd-grade
student attendance at PAcyber?***

Attendance was identified as a critical factor in student success, particularly in

online education, where traditional seat-time measures were not applicable. Archambault

et al. (2013) introduced the concept of "cybertruancy," highlighting the unique challenges

of monitoring and improving attendance in virtual environments. Epstein and Sheldon

(2002) found that school-family partnerships focused on attendance practices

significantly reduced chronic absenteeism. These findings suggested that regular teacher-

parent communication, such as phone calls, played a pivotal role in improving attendance

by fostering accountability and collaboration between families and schools.

What effect did parent/guardian phone communication have on PAcyber 3rd-grade student achievement, as measured by final grades?

Research consistently demonstrated a positive relationship between teacher-parent

communication and student academic performance. Kraft and Rogers (2015) found that

weekly individualized messages from teachers to parents reduced course failure rates by

41%, underscoring the potential of consistent communication to enhance academic

outcomes. Similarly, Fan and Chen (2001) conducted a meta-analysis showing that

parental involvement had a significant positive effect on students' academic achievement.

By focusing on phone communication, this study built on these findings to explore how

direct, voice-based interactions influenced academic performance in an online elementary

school setting.

Did increased phone communication with parents/guardians enhance their perception of their child's learning outcomes?

Parental perceptions were identified as a key component of family engagement

and influenced how parents supported their children's education at home. Borup et al.

(2013) demonstrated that regular teacher-parent interactions positively impacted parents'

understanding of their child's progress and their role in supporting learning. Furthermore,

Hasler Waters et al. (2014) emphasized that parental involvement in online elementary

education enhanced both student outcomes and parent satisfaction. This study aimed to

THE IMPACT OF TARGETED FAMILY COMMUNICATION

explore whether structured phone communication improved parents' perceptions of their child's engagement and academic progress.

The importance of this study was underscored by existing research highlighting the critical role of parental involvement in improving student outcomes, particularly in online learning environments. Studies showed that regular teacher-parent communication led to significant improvements in attendance, academic performance, and engagement. For example, Kraft and Rogers (2015) found that weekly individualized messages from teachers to parents decreased course failure rates by 41%, demonstrating the power of consistent, targeted communication in supporting student success. Similarly, Borup et al. (2013) emphasized that parents in online schools who engaged in regular voice-based communication with teachers spent an average of 86 minutes per week supporting their children's education, which was positively correlated with improved academic outcomes.

3rd grade was identified as a pivotal developmental stage where students transitioned from "learning to read" to "reading to learn" (Chall, 1983). Research by Hernandez (2011) underscored the long-term implications of this transition, noting that students who were not proficient readers by 3rd grade were four times more likely to drop out of high school than their proficient peers. In Pennsylvania, 3rd grade also marked the first year students took the Pennsylvania System of School Assessment (PSSA), adding further significance to this grade level as a benchmark for academic progress (Pennsylvania Department of Education, 2025).

In online learning environments like PAcyber, where physical interactions were limited, effective communication between teachers and parents became even more critical. Archambault et al. (2013) identified "cybertruancy," or disengagement in virtual

THE IMPACT OF TARGETED FAMILY COMMUNICATION

classrooms, as a persistent challenge requiring innovative strategies for monitoring and improving attendance. Epstein's Model of School-Family-Community Partnerships (Epstein, 2018) highlighted bidirectional communication as a cornerstone for fostering strong school-family relationships, which were essential for addressing these challenges.

This study built on these findings by focusing specifically on elementary-level online education, a domain with limited prior research, and explored how structured teacher-parent phone communication enhanced engagement and learning outcomes for 3rd grade students at PAcyber. By addressing these gaps in the literature, this research aimed to provide actionable insights into effective communication strategies that could support student success in virtual learning environments.

Settings and Participants

The study was conducted at PAcyber, an online cyber charter school that served approximately 11,000 students across Pennsylvania. The research focused specifically on 3rd-grade students, their parents/guardians, and their teachers.

Setting

PAcyber operated in a fully online environment where students attended virtual classes and completed coursework remotely. The school utilized various digital platforms for instruction, communication, and assessment. This virtual setting presented unique challenges and opportunities for student engagement and family communication, making it an ideal environment for examining the impact of targeted communication strategies.

The study took place during the 2023-2024 and 2024-2025 academic years. The 2023-2024 cohort served as the baseline group, providing data on attendance, academic

performance, and communication practices before the intervention. The 2024-2025

cohort served as the intervention group, during which the Teacher Communication

Protocol was implemented to enhance teacher-parent interactions.

Participants

The study included two cohorts of 3rd-grade students enrolled at PAcyber, with

the first cohort serving as the baseline group from the 2023-2024 school year and the

second cohort participating in the intervention during the 2024-2025 school year. The

baseline cohort consisted of 409 students, while the intervention cohort included 423

students, both measured on the first day of their respective school years. To ensure data

integrity, only students who were continuously enrolled from the end of the first grading

period through the conclusion of the academic year were included in the analysis.

Students who enrolled after October 30th, 2024 (the close of the first grading period),

were excluded from the study, and data from students who withdrew mid-year were

included only up to their withdrawal date but excluded from final analysis to maintain

consistency across cohorts.

The sample sizes for both cohorts were sufficiently large to ensure robust

statistical power for detecting meaningful differences between groups. A post hoc power

analysis indicated that with sample sizes of 409 and 423, and a significance level (α) of

0.05, the study had over 80% power to detect small-to-medium effect sizes (Cohen's d =

0.20–0.30) in key outcome variables, such as attendance rates, academic performance

metrics, and engagement indicators. This power level aligns with Cohen's (1988)

conventions for educational research and exceeds the minimum sample requirements for

THE IMPACT OF TARGETED FAMILY COMMUNICATION

detecting small-to-medium effects in clustered designs (Hedges & Rhoads, 2010). Recent

replication studies suggest typical effect sizes in educational interventions fall within this

range (Camerer et al., 2018). By including all eligible 3rd-grade students who met

enrollment criteria, the study achieved a comprehensive representation of PAcyber's

population while maintaining methodological rigor. The demographic composition of

each cohort is summarized in Tables 1 and 2.

Table 1

Total Number of 3rd Grade Students in Each Cohort

2023-2024 3rd Grade Students		2024-2025 3rd Grade Students	
Total Number of Students	409	Total Number of Students	423

Table 2

Demographic Breakdown of 3rd Grade Cohorts

2023-2024 3rd Grade Students		2024-2025 3rd Grade Students	
Male	203	Male	212
Female	206	Female	211
American Indian	2	American Indian	4
Asian	10	Asian	11
Black	68	Black	67
Hispanic	23	Hispanic	26
Multiracial/Ethnic	47	Multiracial/Ethnic	52
White	259	White	263
Special Education	67	Special Education	80

Intervention/Research Plan

The intervention in this study involved the implementation of a Teacher

Communication Protocol, which was designed to increase and structure the amount of

live voice-to-voice communication between 3rd-grade teaching staff and the

parents/guardians of 3rd-grade students. The Teacher Communication Protocol aimed to address challenges in student engagement and learning outcomes by fostering stronger partnerships between teachers and families.

The Teacher Communication Protocol prescribed several key elements for effective teacher-parent communication. Teachers were required to make regular phone calls to parents/guardians throughout the school year, at a rate of at least one phone call per month. Guidelines were provided for discussion topics, including student progress, attendance, and strategies for supporting learning at home. Additionally, teachers were tasked with logging each communication attempt and outcome in PAcyber's Student Information System (SIS). This structured approach ensured consistency in the frequency and content of communications while also facilitating data collection for the study.

The Community of Inquiry Framework underscored the importance of teaching presence in fostering student engagement (Garrison et al., 2000). By maintaining regular contact with parents, teachers strengthened their presence and supported students' cognitive and social development. This alignment with established theoretical frameworks provided a solid foundation for the intervention's design.

The design of the Teacher Communication Protocol was informed by the Community of Inquiry framework, especially the concept of teaching presence developed by Garrison et al. (2000). Teaching presence involves the instructional design, facilitation, and guidance of learning experiences in online environments. This protocol translated those principles into practical actions by encouraging teachers to engage in regular, purposeful outreach to families. Through structured monthly calls, teachers supported academic progress, clarified expectations, and nurtured relational trust. These

consistent interactions brought teaching presence beyond the virtual classroom, making it visible to families and reinforcing a shared commitment to student success.

Implementation Timeline

The study was conducted over several key phases, with planning and protocol development occurring in June, July, and early August 2024. During this period, the Teacher Communication Protocol was created with input from the K-5 Administrative Team, including the Principal, Assistant Principals, and Special Education Supervisor. This process involved identifying the frequency of contact, discussion topics, and metrics for measurement. Reports available from PAcyber's SIS were also reviewed to ensure compatibility with data collection needs.

On August 21, 2024, the Teacher Communication Protocol was presented to staff during the K-5 Academy Level In-service training. Teachers received comprehensive training on its implementation, including how to conduct effective phone calls and record communication data accurately. However, due to delays in securing Institutional Review Board (IRB) approval until mid-October 2024, data collection could not commence until after this date. Consequently, baseline data collection and initial implementation of the Teacher Communication Protocol were postponed, missing the first month of the school year.

Monthly communication data collection began on October 25, 2024. At this point, teachers were provided with communication reports generated from PAcyber's SIS. Prior to this date, teachers could access their own data but were unable to share it with the research team due to IRB restrictions. Working with an honest broker trained in data

security and confidentiality, baseline data were pulled from PAcyber's systems starting in November 2024. The honest broker de-identified all data before providing it to the researcher.

A secure OneDrive folder was established for storing de-identified data, accessible only to the broker and researcher. This ensured that all participant information remained confidential throughout the study.

The study's timeline included several key milestones:

- **August 2024**: Teacher Communication Protocol design finalized; teacher training conducted.

- **September 2024**: School year began; initial implementation delayed due to pending IRB approval.

- **October 2024**: IRB approval received; monthly communication logs initiated.

- **November 2024 - April 2025**: Ongoing data collection; monthly teacher-parent communication logs maintained.

- **April 2025**: Parent perception survey distributed electronically.

- **May 2025**: Analysis of student performance metrics and survey responses commenced.

- **June 2025**: Compilation of findings; recommendations for future actions developed.

Progress was monitored through regular check-ins with participating teachers and monthly communication reports. Despite initial delays caused by IRB approval timelines,

THE IMPACT OF TARGETED FAMILY COMMUNICATION

the study proceeded with careful attention to maintaining ethical standards and ensuring

participant privacy.

Fiscal Implications

Implementation of the Teacher Communication Protocol was designed to be

fiscally responsible and aligned with PAcyber's existing resources. The protocol leveraged

PAcyber's existing Voice over Internet Protocol (VOIP) system, RingCentral, for phone

calls, which eliminated additional telecommunication costs. Training for teachers was

integrated into the K-5 Academy Level Back-to-School In-Service in August 2024,

minimizing additional training expenses.

The time allocation for teachers to conduct phone calls was managed within their

existing ten hours per week designated for communication and preparation. This approach

ensured that the Teacher Communication Protocol did not require significant additional

staffing or compensation adjustments. By focusing on phone communication as the

primary method, the study utilized tools and personnel already in place, thereby

minimizing fiscal impacts.

Despite these minimal upfront costs, the potential long-term fiscal benefits of the

Teacher Communication Protocol were significant. If the study results indicated improved

student performance or parental perceptions due to targeted phone calls, PAcyber could

experience positive fiscal outcomes through increased student retention. Retaining students

reduced the need for costly recruitment efforts and helped recoup initial investments in

student enrollment. Research by Molnar et al. (2019) supported this assertion, noting that

THE IMPACT OF TARGETED FAMILY COMMUNICATION

improved academic outcomes often led to higher student retention rates, which contributed to financial stability.

The management of the Teacher Communication Protocol was overseen by the K-5 administrative team, aligning with PAcyber's existing oversight structures. This ensured that the intervention remained cost-effective while meeting institutional goals. Additionally, this study aligned with Pennsylvania's Framework for Teaching, specifically Domain 4C, which emphasized communicating with families (Pennsylvania Department of Education, 2025). By focusing on phone communication, the study supported this framework while enhancing family engagement and student success.

Methods of Data Collection

This study employed a convergent mixed-methods design that collected both quantitative and qualitative data simultaneously to provide a comprehensive understanding of the impact of targeted family communication on student engagement and learning outcomes in online education. The convergent design was selected because it allowed for the concurrent collection of quantitative data (attendance records, grades, diagnostic scores) and qualitative data (parent perception survey responses and teacher feedback) throughout the 2024-2025 school year. The quantitative and qualitative data were analyzed separately and then merged to provide a more complete picture of the intervention's impact. This design enabled the researcher to compare and contrast the quantitative results with qualitative findings, revealing insights that might not have been apparent from either data set alone. Additionally, it aligned well with the study's timeline, allowing for efficient data collection and analysis within the academic year.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

The decision to employ a mixed-methods approach in this study was informed by the literature review, which highlighted the importance of engaging stakeholders in educational settings to improve outcomes (Epstein, 2018). Initially, the study was designed to focus solely on quantitative data, examining student attendance, grades, and performance metrics. However, based on recommendations from the research committee, the study was expanded to include qualitative data through a parent perception survey. This expansion allowed for a deeper exploration of parental engagement and perceptions, providing insights into how communication strategies impacted student engagement and learning outcomes.

The decision to focus on phone communication was informed by Borup et al. (2013), who demonstrated that direct teacher-parent interactions significantly enhanced student outcomes in online settings. Although this study employed monthly rather than weekly contact, Kraft and Rogers' (2015) findings highlighted the importance of consistent communication in improving academic outcomes.

The literature supported the use of mixed-methods approaches in educational research, as they offered a comprehensive understanding of complex phenomena by combining the strengths of both quantitative and qualitative methods (Creswell, 2014). In the context of online education, where students often underperformed compared to their peers in traditional settings (Molnar et al., 2019; Woodworth et al., 2015), understanding parental perceptions and experiences provided valuable insights into how targeted communication strategies could enhance student engagement and academic performance.

By incorporating both quantitative metrics (attendance rates, grades, diagnostic scores) and qualitative insights from parent perceptions, this study aimed to address the

THE IMPACT OF TARGETED FAMILY COMMUNICATION

critical issue of student engagement in online education more comprehensively. The parent perception survey was designed to gather detailed feedback on the frequency, type, and perceived effectiveness of communication strategies, allowing for a nuanced understanding of how these factors influenced parental engagement and student outcomes.

This study employed a comprehensive mixed-methods approach, utilizing both quantitative and qualitative data collection methods to address the research questions thoroughly. Data triangulation was achieved by collecting information from multiple sources.

Quantitative Data Collection

Quantitative data collection for this study focused on measurable indicators of student engagement and academic performance. The data included monthly student attendance records, academic achievement metrics (such as grades, diagnostic test scores in math and reading, and Learning Path participation rates), and communication frequency data from teacher-submitted logs. These data were gathered from PAcyber's Student Information System (SIS), Learning Management System (LMS), and assessment platforms for both the 2023-2024 baseline cohort and the 2024-2025 intervention cohort.

Attendance records were retrieved monthly to track trends in student participation throughout the school year. These records provided a clear picture of how the Teacher Communication Protocol influenced attendance patterns over time. Academic achievement data included final grades in core subjects, as well as diagnostic assessment

scores in math and reading. These assessments were administered at the beginning, middle, and end of each academic year, offering a comprehensive view of student progress. Additionally, participation rates in Learning Path activities were analyzed to assess engagement with online instructional materials.

Teacher-submitted communication logs served as a critical source of quantitative data for this study. These logs documented each phone call made to parents/guardians, including the date, duration, and topics discussed. Teachers were required to log all communication attempts and outcomes in PAcyber's SIS, ensuring consistency and accuracy in data reporting. The communication logs allowed for an analysis of the frequency and consistency of teacher-parent interactions across the intervention cohort.

Baseline data from the 2023-2024 school year were used as a point of comparison for the intervention year. These data included attendance records, academic performance metrics (PSSA scores and end-of-year grades), and withdrawal numbers. By comparing baseline data with intervention-year data, this study aimed to identify significant changes attributable to the implementation of the Teacher Communication Protocol.

The quantitative data collection methods ensured that all relevant metrics were captured systematically and consistently across both cohorts. This approach provided a robust foundation for analyzing the impact of targeted family communication on student engagement and learning outcomes.

Qualitative Data Collection

Qualitative data were collected through an electronic parent perception survey distributed in April 2025. The survey was designed to gather insights into parents'

THE IMPACT OF TARGETED FAMILY COMMUNICATION

perceptions of the frequency, quality, and impact of teacher-parent communication on student engagement, attendance, and academic performance. Additionally, qualitative data were gathered from regular check-ins and end-of-year reflections provided by participating teachers. These reflections offered valuable observations on the implementation of the Teacher Communication Protocol and its perceived impacts on students and families.

The parent perception survey included a combination of closed- and open-ended questions to capture both quantitative ratings and qualitative feedback. Open-ended questions allowed parents to express their thoughts in greater detail, providing nuanced insights into their experiences with the communication strategy. For example, parents were asked, "What aspects of the communication strategy did you find most helpful?" and "What improvements would you suggest for future communication efforts?" These responses were analyzed to identify recurring themes and patterns related to family engagement and perceptions of student outcomes.

Teacher reflections were collected during scheduled check-ins throughout the school year and at the conclusion of the intervention period. Teachers were encouraged to share their perspectives on how the Teacher Communication Protocol influenced their relationships with parents, as well as any observed changes in student engagement or academic performance. These qualitative data provided an additional layer of context to complement the quantitative findings.

All qualitative data were anonymized prior to analysis to ensure participant confidentiality. The open-ended survey responses and teacher reflections were transcribed verbatim and analyzed using thematic analysis techniques outlined by Braun and Clarke

THE IMPACT OF TARGETED FAMILY COMMUNICATION

(2006). This method involved coding the data to identify key themes, which were then organized into broader categories aligned with the study's research questions.

By incorporating multiple sources of qualitative data—parent surveys and teacher reflections—this study aimed to provide a comprehensive understanding of how targeted family communication influenced perceptions of engagement and academic success in an online educational setting.

Data Collection Instruments

The Parent Perception Survey, Appendix E, was distributed electronically to parents/guardians of 3rd-grade students in April 2025 through PAcyber's parent email accounts. The survey was designed to assess five key dimensions: communication frequency, communication quality, perceived impact on student engagement, perceived impact on academic performance, and overall satisfaction with the communication strategy. The survey provided both quantitative and qualitative data, allowing for a comprehensive understanding of parental perceptions regarding the Teacher Communication Protocol.

The survey included a variety of questions aimed at gathering detailed feedback. For example, parents were asked, "How often did you receive phone calls from your child's teacher?" and "How would you rate the quality of information provided during these calls?" Likert-scale questions were used to measure responses quantitatively, with options ranging from "Strongly Disagree" to "Strongly Agree." Open-ended questions were included to gather qualitative feedback, such as "What aspects of the communication strategy did you find most helpful?" These open-ended responses

THE IMPACT OF TARGETED FAMILY COMMUNICATION

provided rich insights into parents' experiences and suggestions for improving

communication strategies.

To encourage honest responses, the survey was conducted anonymously. No

personal identifiers, such as names or email addresses, were collected, ensuring that

participants could provide candid feedback without concern for identification. The

electronic format allowed for efficient distribution and collection of responses while

maintaining confidentiality.

The survey instrument was developed based on validated measures used in

previous studies of parental involvement and communication strategies (Borup et al.,

2013; Kraft & Rogers, 2015). This ensured that the questions aligned closely with the

study's objectives and theoretical frameworks, particularly Epstein's Model of School-

Family-Community Partnerships (Epstein, 2018) and the Community of Inquiry

Framework (Garrison et al., 2000).

By using this survey instrument, the study aimed to capture detailed and

meaningful data on how targeted family communication influenced parental perceptions

of engagement and academic outcomes in an online elementary school setting.

Validity

To ensure the rigor and credibility of this study, several measures were

implemented to address key aspects of validity. Validity was critical in ensuring that the

study accurately measured its intended constructs and produced trustworthy findings. The

study focused on four primary types of validity: internal validity, external validity,

THE IMPACT OF TARGETED FAMILY COMMUNICATION

construct validity, and content validity. Each of these played a distinct role in

strengthening the overall methodological approach.

Internal Validity

Internal validity was enhanced by comparing two consecutive years of 3rd-grade

cohorts. This design allowed for a controlled examination of the impact of the targeted

communication intervention while mitigating confounding variables related to broader

educational trends or systemic changes within PAcyber. The use of multiple data sources

for triangulation further strengthened internal validity. Quantitative data, including

attendance records, course grades, and diagnostic test scores, were complemented by

qualitative data from parent perception surveys and teacher feedback. This multi-faceted

approach provided a comprehensive understanding of the intervention's effects and

corroborated findings across different measures.

To minimize potential bias, an honest broker was employed to de-identify all

student data before it was made available for analysis. This process ensured that the

researcher remained blind to individual student identities, reducing the risk of

unconscious bias during data interpretation. Additionally, the parent perception survey

was conducted anonymously, encouraging honest and unbiased responses from

participants.

The implementation of a standardized Teacher Communication Protocol across all

3rd-grade classes ensured consistency in how teachers engaged with parents. This

standardization reduced variability in the intervention's application and increased

confidence in attributing observed outcomes to the communication strategy rather than

external factors. Detailed documentation of all procedures and decision-making processes was maintained throughout the study, enhancing replicability and allowing for thorough examination of any potential threats to internal validity.

External Validity

External validity was addressed by situating the study within PAcyber's unique online educational model while providing rich contextual information about its student demographics and communication practices. While the focus on 3rd-grade students at a single cyber charter school limited broad generalizability, it offered valuable insights into a growing sector of K-12 education. Detailed descriptions of PAcyber's educational model allowed other researchers and practitioners to assess the applicability of findings to their own contexts.

The use of multiple data sources strengthened external validity by providing a comprehensive view of the impact of targeted communication strategies. Quantitative metrics such as attendance rates, grades, and diagnostic scores were complemented by qualitative feedback from parent surveys and teacher reflections, offering a nuanced understanding of how communication strategies might be adapted in various online learning environments.

Acknowledging limitations in generalizability, comparisons were drawn to existing literature on family engagement in both traditional and online educational settings. This situational context enhanced transferability while situating findings within broader educational research.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Construct Validity

Construct validity was strengthened through careful operationalization of key concepts such as "targeted family communication," "student engagement," and "learning outcomes." These constructs were defined based on established literature to ensure alignment between theoretical frameworks and measurement tools.

Triangulation further enhanced construct validity by integrating quantitative data (attendance records, grades, diagnostic test scores) with qualitative insights from parent perception surveys and teacher reflections. This multi-faceted approach provided a comprehensive understanding of how targeted family communication influenced student engagement and academic performance.

The parent perception survey instrument was developed using validated measures from previous studies (Borup et al., 2013; Kraft & Rogers, 2015). This ensured that survey questions accurately captured intended constructs while aligning with Epstein's Model of School-Family-Community Partnerships (Epstein, 2018) and the Community of Inquiry Framework (Garrison et al., 2000). Standardization of the Teacher Communication Protocol across all classrooms further reduced variability in implementation, enhancing construct validity.

Content Validity

Content validity was ensured through careful development of research instruments that comprehensively addressed constructs related to family communication and student engagement. The parent perception survey covered key dimensions such as communication frequency, quality, impact on engagement, impact on academic

THE IMPACT OF TARGETED FAMILY COMMUNICATION

performance, and overall satisfaction with the communication strategy. These dimensions aligned closely with the study's objectives and theoretical frameworks.

Quantitative measures such as attendance records, grades, and diagnostic test scores were selected based on their established validity within PAcyber's educational framework. These metrics were routinely used in online education research to measure student engagement and academic performance effectively.

The Teacher Communication Protocol was developed collaboratively with experienced educators and administrators to reflect best practices in family-school communication for online learning environments. This collaborative approach ensured that the intervention addressed relevant aspects of effective teacher-parent communication while maintaining alignment with research objectives.

By addressing internal, external, construct, and content validity comprehensively, this study aimed to produce robust findings that accurately reflected the impact of targeted family communication on student engagement and learning outcomes in an online elementary school setting.

Literature Support for Methodological Choices

The mixed-methods approach was supported by literature emphasizing the importance of combining quantitative and qualitative data for comprehensive insights into educational phenomena (Mertler, 2019). Triangulation of data from multiple sources was used to enhance validity, as recommended by Creswell (2014). The use of teacher-parent communication protocols was informed by studies highlighting the positive impact

of regular communication on student outcomes (Bergman & Chan, 2021; Kraft & Rogers, 2015).

Ethical Considerations

This study was conducted in accordance with the approved Institutional Review Board (IRB) protocol from PennWest University (IRB Approval, Appendix A). The IRB approval ensured that all procedures were ethically sound and compliant with relevant regulations.

Informed Consent

Parents/guardians provided consent by completing and submitting the parent perception survey. The survey invitation included a clear explanation of the study's purpose, the voluntary nature of participation, and assurances of anonymity (Informed Consent, Appendix B). Participants were informed that they could withdraw consent at any time by not completing and submitting the survey. There were no penalties for non-participation, and no rewards were offered for completion.

Confidentiality and Privacy

All data collected were de-identified by an honest broker prior to being provided to the researcher. The survey collected no personal identifiers, such as names or email addresses. Data were stored in a secure, protected folder accessible only to the researcher. The risk of loss of confidentiality was minimized through these measures, ensuring that participant privacy was protected throughout the study.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Honest Broker Process

An honest broker was used to de-identify student data, including attendance records, grades, and diagnostic scores. This process ensured that all data provided to the researcher were anonymous and could not be linked to individual students. The honest broker adhered to all applicable regulations and policies for protecting human research participants (Honest Broker Statement, Appendix C).

The potential risks associated with this study were minimal. Participants were informed that there were no anticipated risks beyond those associated with typical survey participation. The benefits of the study included providing insights into the impact of targeted family communication on student engagement and learning outcomes, which could inform future educational practices and improve student success in online learning environments.

This study, while designed to provide valuable insights into the impact of targeted family communication on student engagement and learning outcomes in online education, had several limitations that should be acknowledged. The non-randomized design introduced potential selection bias, as students were not randomly assigned to the intervention or control groups. This could have led to differences between the cohorts that were not solely attributable to the communication intervention. Additionally, the single-year intervention period limited the ability to assess long-term impacts of the communication strategy.

External factors, such as changes in curriculum, teaching staff, or broader educational policies, could have influenced the results and may not have been fully

THE IMPACT OF TARGETED FAMILY COMMUNICATION

controlled for in this design. The study's focus on 3rd-grade students at a single cyber

charter school limited the generalizability of findings to other grade levels or educational

settings. Furthermore, the reliance on self-reported data from parents in the perception

survey introduced the possibility of response bias.

Lastly, while efforts were made to standardize the communication protocol,

variations in individual teacher implementation of the protocol could have impacted the

consistency of the intervention across the study population. These limitations should be

considered when interpreting the results and suggest areas for future research to further

validate and expand upon this study's findings.

Summary

Chapter 3 outlined the research methodology used to investigate the impact of

targeted family communication on student engagement and learning outcomes in an

online educational setting. The research design, which employed a convergent mixed-

methods approach to integrate quantitative and qualitative data. This design was selected

to provide a comprehensive understanding of the relationship between increased teacher-

parent communication and its effects on student performance.

The setting and participants were described in detail, focusing on PAcyber's 3rd

grade students, their families, and teachers. The inclusion criteria, recruitment process,

and ethical considerations, such as informed consent and confidentiality, were addressed

to ensure the study adhered to rigorous ethical standards. The role of the honest broker in

de-identifying data was also explained.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

The research plan was developed based on findings from the literature review, emphasizing the implementation of the Teacher Communication Protocol. This intervention was designed to increase structured phone communication between teachers and families over a defined period. Data collection methods included attendance records, grades, and parent perception surveys for quantitative analysis, while open-ended survey responses provided qualitative insights. The alignment of these tools with the research questions was detailed, along with strategies for ensuring validity through triangulation.

Finally, fiscal implications were considered, and Institutional Review Board (IRB) approval (Appendix A) was obtained to ensure compliance with ethical research standards.

This study underscored the critical role of effective communication between schools and families in supporting student success, particularly in online educational settings. As highlighted by Epstein and Sheldon (2002) and Fan and Chen (2001), parental involvement has consistently been linked to improved attendance, engagement, and academic performance in traditional schools. However, in cyber education environments like PAcyber, where students learn remotely without daily in-person interactions, the need for strong school-family partnerships becomes even more pronounced. Voice-based communication, such as phone calls, provided an opportunity to foster trust, offer personalized support, and strengthen collaboration between teachers and parents, key factors essential for student success in virtual learning (Borup et al., 2013).

For 3rd grade students specifically, this study addressed a pivotal developmental stage where students transitioned from "learning to read" to "reading to learn," a shift with significant implications for future academic achievement (Chall, 1983; Hernandez,

2011). Students who failed to achieve reading proficiency by 3rd grade faced greater risks of long-term academic challenges and were four times more likely to drop out of high school than their proficient peers (Hernandez, 2011). Additionally, 3rd grade introduced standardized assessments like the Pennsylvania System of School Assessment (PSSA), further emphasizing the importance of engagement and academic performance during this critical year (Pennsylvania Department of Education, 2025). In an online environment where disengagement and "cybertruancy" were persistent challenges (Archambault et al., 2013), proactive communication strategies were vital to addressing these unique needs.

The methodology employed in this study was designed to investigate how structured monthly phone communication between teachers and parents influenced 3rd grade student engagement and learning outcomes at PAcyber. Using a convergent mixed-methods approach, quantitative data such as attendance records, grades, and diagnostic scores were analyzed alongside qualitative insights from parent perception surveys and teacher reflections. The Teacher Communication Protocol provided a structured framework for implementing regular voice-to-voice interactions throughout the school year. Ethical considerations were carefully addressed through Institutional Review Board (IRB) approval (Appendix A), informed consent processes (Appendix B), and confidentiality measures facilitated by an honest broker (Appendix C).

This study contributed valuable insights into how targeted family communication could enhance student success at a critical developmental stage while addressing broader challenges in online education. By focusing on 3rd grade students, a population often overlooked in existing research, it provided actionable recommendations for improving

THE IMPACT OF TARGETED FAMILY COMMUNICATION

engagement and learning outcomes through structured communication strategies. These

findings align with prior studies emphasizing the importance of consistent teacher-parent

communication in improving student outcomes (Borup et al., 2013; Kraft & Rogers,

2015). Furthermore, this research offers practical implications for educators seeking

effective ways to build partnerships with families in virtual learning environments.

Chapter 4 will present the results of the data analysis, offering detailed insights

into how targeted family communication impacted attendance patterns, academic

performance, and parental perceptions of engagement within PAcyber's 3rd grade cohort

during the 2024-2025 school year.

Chapter 4

Data Analysis and Results

The purpose of this chapter is to present the results of the data collected and analyzed for this study, which investigated the impact of consistent, targeted teacher communication on student academic outcomes and engagement in a third-grade online learning environment. The analysis incorporates both quantitative and qualitative data gathered from academic performance indicators, attendance records, diagnostic assessments, and parent perception surveys. The data are organized and discussed in alignment with the three research questions stated in Chapter 1.

All findings in this chapter are derived directly from the evidence collected during the research process. Interpretations are limited to patterns observed in the data and are not intended to draw broader conclusions or suggest causality. Implications of these findings will be discussed in Chapter 5.

A complete summary of data sources, analysis types, and their alignment to each research question is included in Appendix F (Data Matrix). In accordance with the Capstone Guidelines, raw data distributions for key variables, including final grades and diagnostic scores, are included in appendix G to enhance transparency and facilitate replication.

Overview of Data Collection and Analysis Methods

The data used in this study were collected from two third-grade cohorts at PAcyber: a baseline group from the 2023 to 2024 school year and an intervention group

THE IMPACT OF TARGETED FAMILY COMMUNICATION

from the 2024 to 2025 school year. The intervention cohort was selected based on its implementation of structured teacher-family communication strategies, as outlined in Chapter 2.

Quantitative data included student attendance rates, final course grades in core academic subjects (ELA, Math, Science, and Social Studies), Exact Path diagnostic growth in reading and math, and closed-ended responses from the parent perception survey. These data were analyzed using descriptive statistics (mean, median, and standard deviation), independent samples t-tests, Mann-Whitney U tests for nonparametric distributions, Levene's test for variance equality, and Cohen's d for effect size measurement (Cohen, 1988). All statistical techniques were selected based on the nature and distribution of the data and followed best practices in educational research methodology.

Qualitative data were drawn from open-ended responses in the parent perception survey. Responses were thematically coded using a combination of keyword identification (KWIC) and manual review to determine recurring patterns. The coding approach followed the principles established by Braun and Clarke (2006) for thematic analysis. Representative quotes were selected to highlight parent perspectives aligned with each emergent theme. These qualitative insights served to triangulate the quantitative findings and offer a richer understanding of parent perceptions.

The findings are presented in three main sections, corresponding to each research question. Each section includes a narrative explanation of results, supporting tables and figures, and a summary connecting the data to the research objective. Each research question is restated before presenting the analysis.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Research Question 1: What impact does consistent, targeted communication from teachers have on student academic outcomes in a third-grade online learning environment?

Academic outcomes were assessed through two lenses: final course grades and diagnostic assessment growth.

Final grades in ELA, Math, Science, and Social Studies were examined using descriptive statistics and independent samples t-tests. The intervention cohort significantly outperformed the baseline group in all four subject areas. For instance, the mean final grade in ELA increased from 71.36 percent in the baseline cohort to 80.00 percent in the intervention cohort. Similarly, Math grades rose from 73.11 percent to 83.05 percent, and Science from 73.13 percent to 85.03 percent. Each difference was statistically significant ($p < .001$), with effect sizes ranging from $d = 0.86$ (ELA) to $d = 1.02$ (Science). These are considered large according to Cohen's (1988) conventions and suggest meaningful academic gains across core subjects. These values far exceed conventional thresholds and may warrant additional sensitivity analysis or contextual interpretation to assess their practical significance.

As shown in Table 3, academic performance improved across all subjects, and Figure 1 illustrates the comparative performance across cohorts.

Table 3

Mean Final Grades by Subject and Cohort

Subject	Baseline Cohort Mean (%)	Intervention Cohort Mean (%)	p-value	Cohen's d
ELA	71.36	80	< .001	0.86
Math	73.11	83.05	< .001	0.99
Science	74.25	84.4	< .001	1.02
Social Studies	72.89	82	< .001	0.91

Figure 1

Final Grades by Subject (Bar Chart Comparison)
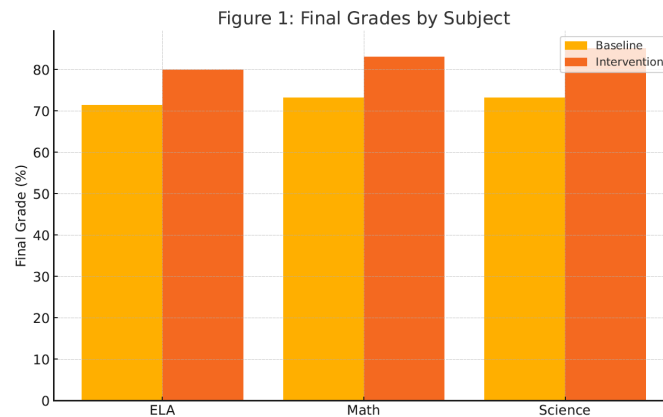
In addition to final grades, student growth was analyzed using Exact Path

diagnostic assessments in reading and math. Each difference was statistically significant

(p < .001), with effect sizes ranging from d = 0.86 (ELA) to d = 1.02 (Science). These are

considered large according to Cohen's (1988) conventions and suggest meaningful

academic gains across core subjects in scaled score from fall to spring. In Math, students

in the intervention cohort experienced greater growth (+85.04 points) compared to those

THE IMPACT OF TARGETED FAMILY COMMUNICATION

in the baseline group (+64.79 points). Although the t-test result was not statistically

significant (p = 0.14), the trend supported improvement. In Reading as shown in Table 4

and Figure 2, the baseline cohort had higher average growth (+77.17 points) compared to

the intervention group (+42.94 points), with a borderline significant p-value of 0.052.

While not statistically significant at the conventional 0.05 level, this result may be further

explored through confidence intervals or Bayesian inference approaches to gauge the

strength of the trend. Effect sizes for Math and Reading growth were -0.25 and +0.38,

respectively, indicating small to moderate differences.

Table 4

Average Growth in Exact Path Diagnostics (Reading and Math)

Subject	Baseline Growth	Intervention Growth
Reading	77.17	42.94
Math	64.79	85.04

Figure 2

Growth in Diagnostics by Subject and Cohort

Figure 2: Diagnostic Growth by Subject
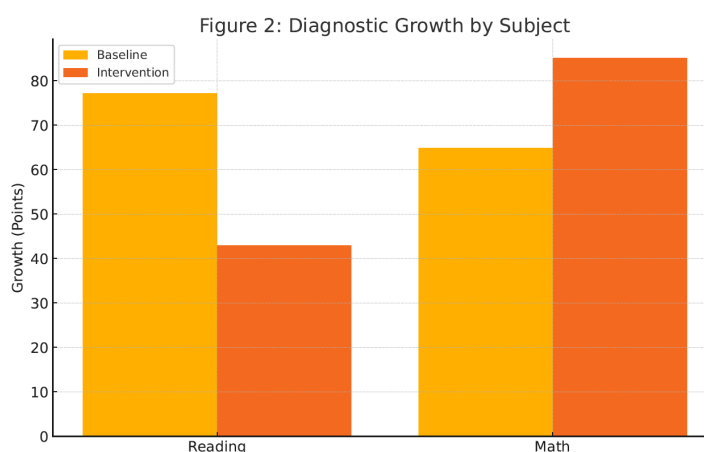
THE IMPACT OF TARGETED FAMILY COMMUNICATION

To complement the quantitative results, qualitative responses from the parent survey were analyzed for perceptions of academic support. Thematic analysis revealed that many parents felt teacher communication helped them support their child's academic progress. Quotes such as "Knowing the teacher is active and aware of my child helps me stay on track" and "Her teacher's feedback gave her confidence" underscored this perception. These themes aligned with the quantitative trends in final grades, especially in ELA and Math.

Research Question 2: How does consistent teacher communication impact student engagement, as measured by attendance and participation, in a third-grade online learning environment?

Student engagement was evaluated through analysis of attendance records and parent-reported perceptions of class participation.

The analysis of attendance data revealed that the baseline cohort had a higher average attendance rate of 97.34 percent, compared to 90.02 percent in the intervention cohort. Descriptive statistics showed a notable decline in attendance across the two cohorts. A Levene's test confirmed a significant difference in variances ($p < .001$), prompting the use of both an independent samples t-test and a Mann-Whitney U test to assess significance. Both tests yielded statistically significant results ($p < .001$), and Cohen's d was calculated at 0.72, indicating a medium to large effect size.
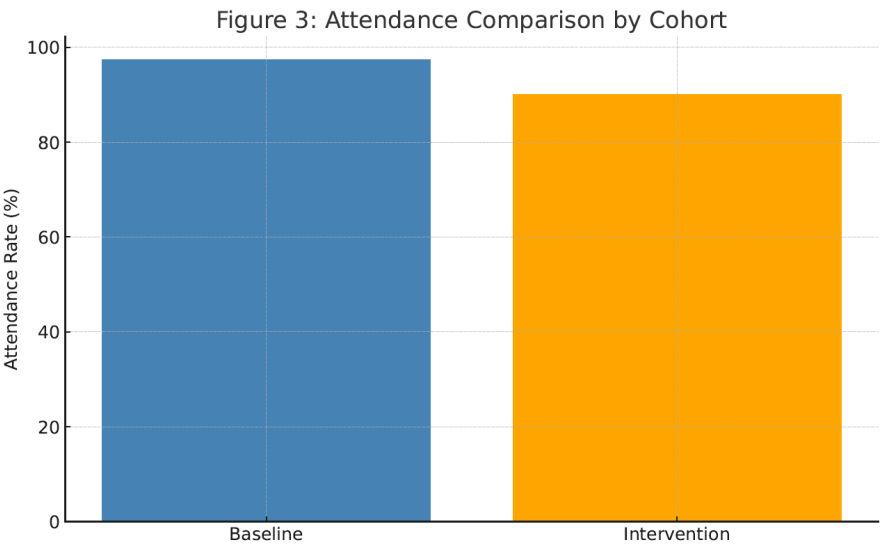
THE IMPACT OF TARGETED FAMILY COMMUNICATION

Table 5

Attendance Rates by Cohort

Cohort	Average Attendance (%)
Baseline	97.34
Intervention	90.02

Note. Average attendance rates declined in the intervention cohort despite reported increases in engagement. Rates are expressed as percentages.

Figure 3

Attendance Rate Comparison Between Baseline and Intervention Cohorts

Figure 3: Attendance Comparison by Cohort

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Note. Average attendance rates declined in the intervention cohort despite reported increases in engagement. Rates are expressed as percentages.

Despite this quantitative outcome, qualitative and survey data suggested a more nuanced picture. Parent survey results revealed that over 60 percent of respondents agreed that teacher communication improved their child's engagement in live class sessions. This contrast between measurable attendance and perceived engagement raises the possibility that families differentiate between physical presence and emotional or cognitive participation.
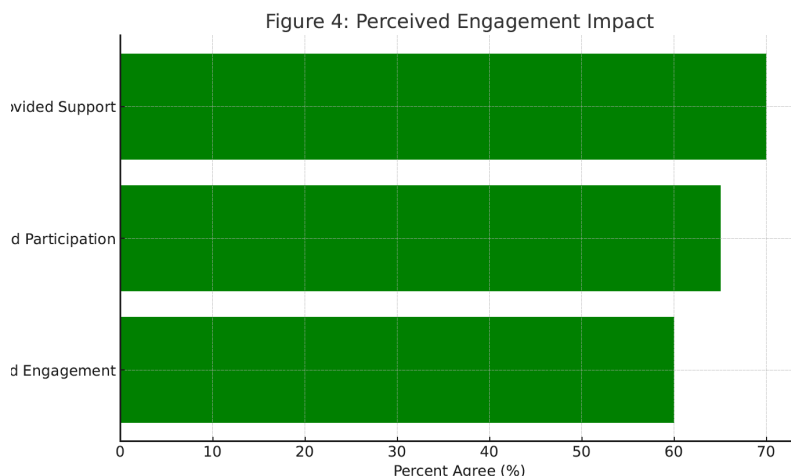
Table 6

Parent Survey Responses Related to Student Engagement

Survey Item	Percent Agree (%)
Improved Engagement	60
Helped Participation	65
Provided Support	70

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Figure 4

Perceived Engagement Impact

Figure 4: Perceived Engagement Impact

Qualitative data from open-ended survey questions further support the perception of enhanced engagement. Parents shared comments such as, "My student went from being in a class with a lot of anxiety to loving it" and "The options given to reach out at any time made me feel supported." These sentiments aligned with themes coded as "Improved Engagement" and "Supportive Communication." However, responses also included less favorable impressions, such as, "He really hated school this year. He is bored and feels unimportant," highlighting inconsistency in engagement outcomes.

Research Question 3: How do parents perceive the effectiveness and impact of teacher communication on their child's learning and school experience in a third-grade online environment?

This research question was addressed using both the closed- and open-ended responses from the parent perception survey. The goal was to understand how families interpreted the role of teacher communication in their child's academic experience and overall satisfaction with school.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Quantitative survey data indicated that a significant majority of parents believed teacher communication was beneficial. Specifically, 82 percent reported that communication helped them support their child's learning, and approximately 60 percent felt it improved class engagement. Nearly half (48 percent) believed it helped improve academic grades, while over 60 percent indicated that teacher communication factored into their decision to re-enroll in PAcyber. Among those who had students enrolled in the prior school year, the majority rated the current year's communication as better or equally effective.

Table 7

Parent Perceptions of Communications

Survey Question	Percent Agree (%)
Helped support learning	82
Improved engagement	60
Improved academic grades	48
Influenced enrollment	61

Table 8

Cross-Tabulation: Parent Perception of Communication vs. Student Grades

Parent Perception of Improved Learning	Average ELA Grade (%)	Average Math Grade (%)
Yes	84.2	86.1
No	76.4	78.5

Figure 5

Effectiveness of Communication

Figure 5: Parent Perceptions of Communication Effectiveness
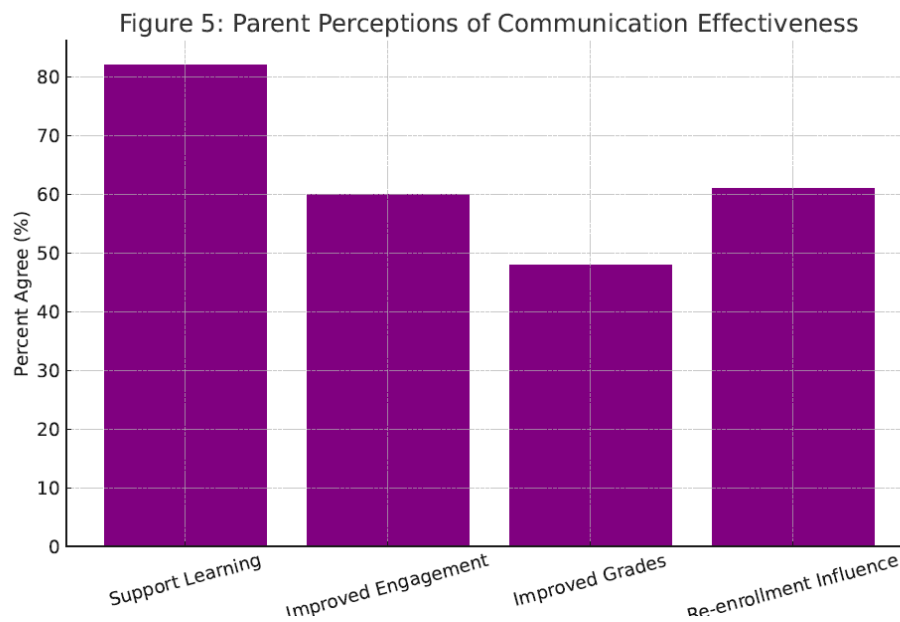
In addition to scaled response data, qualitative responses provided deeper insight into parental experiences. Thematic analysis of these open-ended responses revealed

several dominant patterns. Many parents emphasized the value of supportive and consistent contact with the teacher. One parent wrote, "Knowing the teacher is active and aware of my child helps me stay on track." Others highlighted the importance of feedback and communication clarity, such as in the statement, "Her teacher's feedback gave her confidence." These comments were categorized under themes such as "Supportive Communication" and "Clarity and Access."

Table 9

Representative Parent Quotes by Theme

Theme	Representative Quote
Supportive Communication	"Knowing the teacher is active and aware of my child helps me stay on track."
Clarity and Access	"Her teacher's feedback gave her confidence."
Lack of Contact	"No one personally communicated with my unless I reached out."

Conversely, some parents expressed dissatisfaction with communication practices. For example, one noted, "No one personally communicated with me unless I reached out," which reflects a sense of limited outreach and was coded under "Lack of Contact." This contrast indicates that while many families experienced the benefits of structured communication, others did not find those strategies effective or sufficiently implemented.

These findings align with literature discussed in Chapter 2, including Glanz's engagement frameworks, which emphasized the importance of family engagement in

THE IMPACT OF TARGETED FAMILY COMMUNICATION

online learning environments (Glanz, 2006). The positive correlation between parent perceptions and academic gains observed in earlier sections reinforces the role of communication as an influential factor in online education.

Summary

The data presented in this chapter include multiple sources used to explore the relationship between teacher communication and student outcomes within a third-grade online learning context. Quantitative data sources included final grades in core subject areas, attendance records, performance on Exact Path diagnostic assessments in reading and math, and parent perception survey responses. Each data set was cleaned, organized, and analyzed independently and then triangulated to identify consistent patterns within the sample.

Descriptive statistics were used to summarize student performance across subjects, including counts and percentages of students meeting grade-level expectations. Attendance data were reported in terms of the number of absences recorded for each student, with averages calculated for the cohort. Exact Path diagnostic scores were analyzed by domain and instructional level to evaluate student placement and changes in readiness. Final grades were reported by subject to determine overall academic standing. Each quantitative dataset was examined for trends and associations relevant to the research focus.

Correlation analyses were conducted to identify relationships between communication-related variables and student outcomes. These analyses explored potential associations between parent-reported communication experiences and measures

such as student attendance, diagnostic growth, and final course grades. Correlations were calculated using Pearson's r, and where data sets involved different scales or categorical responses, cross-tabulations and comparison of group means were applied.

Qualitative data were drawn from open-ended parent survey responses. These comments were coded using a constant comparative method to identify recurring themes related to the quality, frequency, and impact of teacher communication. Coding categories were refined through iterative review, and keyword-in-context (KWIC) analysis supported the categorization of parent responses (Leech & Onwuegbuzie, 2007).Themes were reported in terms of their frequency and the descriptive content shared by families, with selected anonymized quotes included to illustrate each thematic group.

All datasets were reviewed both independently and comparatively to examine potential areas of convergence or divergence in patterns. The analysis maintained a strict focus on what was present in the data, including reported frequencies, statistical relationships, and coded qualitative categories. This chapter reports all procedures and findings as they were derived from the collected data sets and lays the foundation for interpretation and broader discussion in the next chapter. Chapter 5 will explore the implications of these results, connect them to existing literature, and offer recommendations for practice and future research.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Chapter 5

Conclusions and Recommendations

As stated in Chapter 1, the purpose of this study was to examine the impact of consistent, targeted teacher communication on student academic outcomes, engagement, and parent perceptions within a third-grade online learning environment. The need for this inquiry emerged from a documented decline in teacher-family communication and student participation as learners advanced into third grade, a concern underscored by attendance data, academic performance trends, and stakeholder feedback collected during prior years.

The intervention was designed in direct response to this challenge. It introduced a structured communication strategy implemented by third-grade teachers at PAcyber, emphasizing regular, personalized outreach and feedback. This initiative aimed to build stronger relational trust between families and educators, a strategy supported by the theoretical foundations explored in Chapter 2. In particular, Epstein's model of family-school partnerships (Epstein, 2018) and Glanz's engagement frameworks (Glanz, 2006) were used to frame the intervention's design and its anticipated outcomes.

Methodologically, this study employed a convergent mixed-methods approach, integrating quantitative measures, such as final grades, attendance, and diagnostic assessments, with qualitative insights derived from parent survey responses. As detailed in Chapter 3, the use of two cohorts, including a control (baseline) group and an intervention group, allowed for comparative analysis across data types.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

This chapter presents conclusions drawn from the findings reported in Chapter 4. It synthesizes results across all three research questions and offers summative judgments on the effectiveness of the intervention. Implications for instructional practice, program design, and resource allocation are considered in the context of school and district decision-making. The chapter concludes with recommendations for future research and reflective planning to guide continued improvement in family communication and student support.

Conclusions

The findings of this study affirm that consistent, targeted communication from teachers can serve as a meaningful lever to improve academic outcomes, strengthen student engagement, and enhance parent perceptions of support in an online elementary learning environment. These conclusions are grounded in analysis from two third-grade cohorts at PAcyber and supported by both quantitative performance indicators and qualitative insights collected through a convergent mixed-methods design.

Students in the intervention cohort outperformed their baseline peers across all measured subjects, with average final grades in English Language Arts (ELA), Math, Science, and Social Studies rising by more than ten percentage points. These improvements were not only statistically significant but were also accompanied by large effect sizes (Cohen's d ranging from 0.86 to 1.02), which are substantial by educational research standards and suggest strong intervention impact. Such magnitude of change is rarely observed in educational interventions and warrants deeper interpretation. It is possible that the structured, recurring communication with families created an

environment of heightened accountability, transparency, and relational trust. When teachers called home consistently, families reported a clearer understanding of expectations, earlier awareness of missing assignments, and greater confidence in how to support learning. These findings align with Kraft and Rogers (2015), who demonstrated that weekly teacher messages dramatically reduced course failure rates, and Borup et al. (2013), who found that voice-based communication between teachers and parents in virtual settings correlated with improved student outcomes.

Furthermore, qualitative data from the parent perception survey illuminated the emotional and relational components that likely contributed to academic growth. Many families described the communication as "motivating," "reassuring," and "helpful in redirecting our focus." Several noted that hearing from a teacher directly made their child "feel seen," which in turn appeared to boost student self-efficacy and willingness to engage in learning. These affective dimensions of learning are often less visible in quantitative metrics but were repeatedly emphasized in parent reflections and are critical for sustaining academic success in online environments.

Paradoxically, while academic performance improved, student attendance declined in the intervention cohort, falling from an average of 97.34 percent to 90.02 percent. This outcome was unexpected and initially appears to contradict the hypothesis that stronger communication improves engagement. However, qualitative data reveal a more complex picture. Over 60 percent of parents agreed that teacher communication improved their child's engagement in live sessions, and open-ended responses frequently cited increases in participation, focus, and motivation. This suggests that while attendance, as traditionally measured through log-in records, may have decreased, the

THE IMPACT OF TARGETED FAMILY COMMUNICATION

quality of engagement, what Garrison et al. (2000) might refer to as cognitive and social presence, may have strengthened. This tension aligns with Archambault et al. (2013), who introduced the concept of "cybertruancy" and cautioned against relying solely on attendance logs to measure student engagement in virtual settings.

This finding raises critical questions about how online schools define and monitor participation. The data suggest that attendance may not adequately reflect the emotional and intellectual investment students make in their learning. For example, a student who logs in daily but disengages mentally may appear compliant on paper but remain unmotivated, whereas a student who misses a session but follows up proactively may be highly engaged. Thus, the divergence between lower attendance and higher reported engagement underscores the need for schools to adopt more nuanced, multi-dimensional engagement metrics.

The parent perception data further validated the effectiveness of the intervention. Eighty-two percent of parents agreed that communication helped them support their child's learning, and over 60 percent indicated that communication influenced their decision to re-enroll in PAcyber for the following year. These are powerful outcomes in the context of virtual education, where maintaining strong family-school relationships can be challenging. Thematic analysis revealed recurring parent comments such as "Knowing the teacher was aware of my child's progress kept me more accountable as a parent," and "Her teacher's encouragement gave her the confidence to try harder." These insights suggest that communication served not just as an information-sharing tool, but as a vehicle for building relational trust and shared ownership of student success.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

However, the qualitative data also highlighted inconsistencies in implementation. While the intervention called for monthly outreach, some parents reported receiving only one to three phone calls throughout the year. This uneven application suggests that while the framework was effective, its impact was diminished by inconsistent execution. This reinforces the need for clearer monitoring systems, supportive teacher training, and the inclusion of communication fidelity as a professional expectation aligned with instructional responsibilities.

In sum, the findings from this study suggest that structured teacher communication is more than a supplementary strategy, it is foundational to effective online instruction. The significant academic gains, coupled with enhanced parental support and increased emotional engagement, point to the power of intentional outreach in virtual education. These results also prompt a reexamination of how online schools define and measure engagement, urging a shift toward more holistic, student-centered metrics that reflect the full range of learning experiences.

Theoretical Implications

The results of this study strongly align with and reinforce the theoretical models that framed its design and implementation. In particular, Epstein's Framework of School, Family, and Community Partnerships (Epstein, 2018), Hoover-Dempsey and Sandler's Model of Parental Involvement (Hoover-Dempsey & Sandler, 2005), and the Community of Inquiry (CoI) Framework (Garrison et.al., 2000) provide critical lenses through which the findings can be interpreted.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Epstein's Model identifies six types of involvement, including parenting, communicating, volunteering, learning at home, decision-making, and collaboration with the community (Epstein, 2018). This study's intervention, structured monthly communication between teachers and families, centered most directly on the second type: communication. The overwhelmingly positive parent responses, as well as the statistically significant academic gains, suggest that communication is not a passive exchange of information but an active, bidirectional process that strengthens the parent-school partnership. Many parents noted they felt "more empowered," "more connected," or "more informed" as a result of the communication. These statements reflect Epstein's emphasis on schools taking the initiative to invite and sustain family involvement through consistent and meaningful outreach (Epstein, 2018).

The data also lend support to Hoover-Dempsey and Sandler's model, which posits that parents' involvement in their child's education is influenced by their motivational beliefs, their perception of invitations to become involved, and their contextual life demands (Hoover-Dempsey & Sandler, 2005). One of the most salient findings of this study was that many parents felt that teacher communication served as an *invitation*, a clear signal that their role in supporting their child's education was both valued and expected. Several parents expressed that the regular phone calls "opened the door for conversation" or gave them "permission to ask questions." These responses illustrate the model's assertion that school outreach serves as a catalyst for parental engagement. Moreover, this study's alignment with Hoover-Dempsey's work highlights the idea that engagement is not only driven by internal motivation but also shaped by external

conditions, namely, the frequency and quality of teacher communication (Hoover-Dempsey & Sandler, 2005).

The findings also intersect meaningfully with the Community of Inquiry (CoI) Framework, which emphasizes the importance of teaching presence, cognitive presence, and social presence in online learning (Garrison et. al., 2000). This study suggests that teacher-parent communication may serve as a powerful extension of teaching presence beyond the virtual classroom. When teachers regularly reached out to families to share observations, data, or encouragement, they reinforced their role as facilitators and guides in the learning process. In turn, this enhanced cognitive presence by prompting parents to reflect on their child's learning behaviors and engagement strategies at home. Some parents reported that the teacher calls "helped me understand where she was struggling" or "gave me ways to help with math," indicating that the communication also activated new learning conversations in the home environment. Additionally, the social presence, the sense of connection, trust, and belonging, was elevated for both students and parents. Parents often used phrases like "felt heard," "felt supported," and "felt like part of the team," suggesting that voice-based communication humanized the virtual experience and contributed to a stronger sense of school community.

Taken together, the results of this study provide robust evidence that well-structured, consistent communication strategies can activate multiple dimensions of these frameworks. By validating their core assumptions in a third-grade online context, this study not only supports existing theoretical models but also helps extend their applicability to cyber education and early elementary learners, a population often overlooked in the research literature.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Limitations

While the findings of this study offer compelling evidence that structured teacher communication can enhance academic outcomes and family engagement, several limitations must be acknowledged. These limitations do not diminish the value of the results but rather provide important context for interpreting the data and for designing future studies.

Inconsistent Implementation Fidelity

One of the most notable limitations was the variation in teacher adherence to the communication protocol. Although the intervention called for monthly voice-to-voice contact with families, parent survey responses and SIS logs revealed that many teachers made fewer calls than intended. This inconsistency introduces ambiguity into the treatment exposure across participants and likely diluted the full potential impact of the intervention. Without uniform implementation, it is difficult to attribute outcomes solely to the intervention or to determine which students received its intended dosage.

Variability in Communication Quality

In addition to frequency, the content and tone of the teacher communication were not standardized or measured. While some families described their interactions as highly supportive and informative, others felt the outreach was limited or impersonal. This variability in quality adds another layer of complexity. The study cannot determine whether it was the existence of communication, the depth of that communication, or the relational rapport between teacher and family that drove the positive outcomes. Future

THE IMPACT OF TARGETED FAMILY COMMUNICATION

studies should incorporate measures of communication quality, such as coded transcripts or standardized call rubrics.

Reliance on Self-Reported Parent Perception Data

The qualitative findings were derived from an anonymous electronic parent perception survey. While these insights added depth and triangulation to the quantitative results, self-reported data are inherently susceptible to response bias, social desirability effects, and selective memory. Moreover, parents who responded to the survey may not be representative of the broader parent population. It is possible that those with stronger relationships to their child's teacher were more likely to participate.

Single-Year, Single-Setting Design

The study was conducted over the course of a single school year within a single virtual charter school. This limited timeframe restricts the ability to draw conclusions about the long-term sustainability of the intervention. Similarly, while PAcyber serves a geographically diverse student body, it remains one institutional context with its own policies, culture, and infrastructure. Generalizing these results to other cyber schools, hybrid programs, or traditional settings should be done with caution.

Lack of Subgroup Analysis

Although the student sample was demographically diverse, this study did not disaggregate data by subgroup (e.g., students with IEPs, English language learners, racial

THE IMPACT OF TARGETED FAMILY COMMUNICATION

or socioeconomic categories). Without this level of analysis, it remains unclear whether

structured communication had differential effects across populations. Given that

communication barriers and engagement challenges can be shaped by cultural, linguistic,

or resource-related factors, future studies should explore how interventions like this

function across specific student and family subgroups.

Attendance and Engagement Measurement Constraints

Another key limitation lies in how student engagement was measured. The study

relied primarily on attendance logs, which do not fully capture the multidimensional

nature of engagement, particularly in online learning environments. While qualitative

data suggested increased emotional and cognitive engagement, these elements were not

directly measured through validated instruments. As such, any claims about engagement

beyond attendance must be interpreted as suggestive rather than conclusive.

Uncontrolled External Variables

As with any real-world intervention, this study unfolded in a dynamic environment

influenced by factors beyond the researcher's control. These include potential differences

in teacher experience, changes to curriculum, mid-year staffing adjustments, and broader

policy or environmental shifts that may have affected student performance or parent

perceptions. Without a randomized control or matched cohort design, these confounding

variables cannot be ruled out.

Despite these limitations, the study provides a strong foundation for future inquiry.

Each of these constraints informs the recommendations outlined earlier and helps frame

THE IMPACT OF TARGETED FAMILY COMMUNICATION

the next phase of research needed to refine, replicate, and extend the findings across

diverse settings.

Implications for Practice

The findings of this study present several actionable implications for educators,

administrators, and policymakers seeking to improve academic outcomes and student

engagement in online learning environments. The evidence suggests that consistent,

personalized teacher-family communication is not simply a best practice, it is an essential

component of effective virtual instruction. Implementing these practices with fidelity and

intention can enhance student achievement, build stronger relationships with families,

and support long-term school improvement goals.

Institutionalize Structured Communication Protocols

Given the academic gains observed in this study, schools should consider formalizing

a structured communication framework. This involves more than encouraging teachers to

"stay in touch." Instead, it requires setting clear expectations for communication

frequency, topics, and documentation. The study's protocol of monthly outreach can

serve as a model, but flexibility should be built in to accommodate varying family needs.

Making structured outreach a formal part of instructional planning and teacher

evaluation, particularly under Domain 4C of the Pennsylvania Framework for Teaching,

THE IMPACT OF TARGETED FAMILY COMMUNICATION

can ensure it becomes embedded in school culture rather than treated as optional

(Pennsylvania Department of Education, n.d.).

Provide Professional Development on Effective Family Engagement

Not all teachers feel equally confident or prepared to engage families by phone or through personal outreach. Professional development should go beyond compliance training and instead focus on building relational communication skills, such as how to initiate challenging conversations, how to use asset-based language, and how to build trust across cultural or socioeconomic differences. Coaching and role-play opportunities can further support teacher readiness, especially for those new to virtual instruction.

Develop Tools to Track Communication Fidelity and Impact

To ensure the effectiveness of outreach efforts, schools should implement systems to monitor and support communication practices. These tools could include teacher-maintained communication logs, monthly SIS-generated reports, and periodic family pulse surveys. Importantly, the goal should be formative, not punitive, to provide teachers and administrators with visibility into trends, highlight areas for celebration, and identify families who may need additional support. Tracking communication should also include qualitative notes where appropriate, to ensure that the *quality* of interactions is considered alongside quantity.

Expand Definitions of Engagement Beyond Attendance

This study found a disconnect between attendance rates and perceived engagement, suggesting that traditional log-in metrics may not reflect a student's actual connection to learning. Schools should consider developing multi-dimensional engagement dashboards that include live class participation, Learning Path usage, student feedback, parent input, and teacher observations. These broader metrics can offer a more accurate picture of student involvement and inform more tailored interventions.

Empower Families as Partners in Learning

Many families in this study reported feeling "more confident" or "better able to help" their children as a result of regular communication. Schools should build on this momentum by providing family-facing tools, such as progress dashboards, academic tip sheets, or scheduled check-ins, that support parents as instructional allies. Schools might also consider establishing virtual parent support networks or office hours, where families can access guidance or simply connect with others navigating similar challenges.

Adapt Communication Strategies to Meet Family Preferences

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Although phone calls were the focus of this study, some families indicated a preference for other modes, such as text messaging or email. A next-level approach to communication may involve layered strategies, where schools identify parent preferences early in the year and tailor outreach accordingly. This kind of adaptive communication supports equity by honoring different family contexts while preserving the relational benefits of voice-to-voice contact when appropriate.

Align Communication Practices with Retention and Fiscal Goals

From a systems-level perspective, improved communication strategies may have a downstream impact on student retention, which is critical for the financial health of cyber charter schools. As noted in the literature, student retention is more cost-effective than recruitment, particularly in schools with high technology and onboarding costs.

Leadership teams should consider including communication metrics in school improvement plans and retention strategies, recognizing their dual impact on student success and financial sustainability.

These implications point to a broader truth that emerged from the study: in virtual education, communication is not ancillary, it is essential. When teachers reach out consistently and with purpose, they do more than deliver information; they establish trust, spark motivation, and cultivate shared ownership of student success. The success of this relatively simple intervention suggests that meaningful improvements in academic and engagement outcomes are not always dependent on new technology or large-scale

THE IMPACT OF TARGETED FAMILY COMMUNICATION

programs. Rather, they often stem from intentional, human-centered practices that prioritize relationships. While the data presented in this study offer a compelling case for adopting structured communication protocols in online learning environments, they also raise important questions about sustainability, adaptation across settings, and the evolving needs of families. These questions shape the foundation for future research and continued inquiry.

Recommendations for Future Research

While this study yielded compelling evidence in support of structured teacher-family communication, it also raised several questions and opportunities that warrant further investigation. To build on the findings presented here, future research should consider the following directions:

Conduct Longitudinal Studies to Assess Sustained Impact

This study examined outcomes over the course of a single academic year. While results showed significant gains in academic performance and parent perceptions, the long-term effects of structured communication are unknown. Longitudinal studies could explore whether continued implementation leads to sustained academic growth, stronger student-teacher relationships, or improved student retention over multiple years. Additionally, examining whether early exposure to consistent communication habits influences student self-regulation and engagement in later grades would be particularly valuable.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Compare Communication Modalities and Their Relative Impact

This study focused on phone calls as the primary mode of outreach. However, parent feedback indicated varied preferences, including interest in email, texting, or video-based communication. Future research should investigate the comparative effectiveness of different communication methods, including combinations of modalities. Experimental or quasi-experimental studies could examine whether certain formats yield greater gains in engagement, attendance, or parent satisfaction, and whether these effects vary based on student age, family demographics, or language access.

Explore Implementation Across Other Grade Levels

While third grade was intentionally selected due to its transitional importance, there is strong rationale for examining how similar interventions may impact students at other stages of development. Future studies could investigate whether structured communication produces comparable results in earlier grades (where parent dependence is higher) or upper elementary grades (where independence and complexity increase). Comparing effects across developmental stages would provide valuable insight for K–12 online schools seeking to scale communication protocols system-wide.

Investigate Communication Effects Across Student Subgroups

This study treated the third-grade cohort as a whole; however, outcomes may vary across important subgroups, including students with IEPs, English language learners, economically disadvantaged students, or students from underrepresented racial and ethnic backgrounds. Disaggregating data in future research would help identify whether structured communication differentially benefits, or inadvertently misses, certain populations. Such analyses could guide schools in developing more targeted engagement strategies that address equity and inclusion goals.

Examine Teacher-Level Variables and Fidelity of Implementation

Variation in teacher implementation was identified as a key limitation in this study. Future research should explore how teacher beliefs, communication skills, workload, or professional background influence their ability to carry out consistent outreach. Mixed-methods research could pair communication logs with teacher interviews or reflective journals to gain a deeper understanding of what supports or hinders fidelity. Additionally, identifying effective professional development strategies could strengthen the sustainability of communication interventions across diverse teaching teams.

Redefine and Measure Engagement in Multi-Dimensional Ways

The finding that academic performance improved while attendance declined underscores the need for more nuanced definitions of engagement in virtual education.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Future research should aim to develop and validate multi-dimensional engagement metrics that include not only attendance, but also cognitive participation, emotional connection, interaction in class activities, and asynchronous platform usage. Such measures would provide a more holistic understanding of student involvement and offer better alignment with parent and teacher observations.

Investigate the Link Between Communication and Family Retention

While this study included a single survey item addressing whether communication influenced re-enrollment decisions, a more focused study could explore this link in greater detail. Future research might examine how communication practices affect family satisfaction, school loyalty, and decisions to remain enrolled in virtual charter settings. This line of inquiry could inform both academic and fiscal policy decisions, particularly in schools where retention is essential to long-term sustainability.

The recommendations outlined above reflect the natural next steps for expanding this body of research and strengthening its relevance across educational settings. As online learning continues to evolve, so too must our understanding of how human connection, facilitated through thoughtful communication, shapes the experiences of students and families. By pursuing these future lines of inquiry, researchers and practitioners alike can continue building a more comprehensive, equitable, and effective model for virtual education that places relationships at the center of student success.

Summary

This study set out to investigate a deceptively simple question: what happens when teachers in an online school consistently and intentionally reach out to the families of

their students? The answer, grounded in data and enriched by lived experience, is both

affirming and transformative. Structured, voice-based communication between teachers

and families is not merely helpful, it is demonstrably impactful. The findings of this

research confirm that consistent outreach led to statistically significant academic gains

across every core subject. Students in the intervention cohort outperformed their peers by

more than ten percentage points in ELA, Math, Science, and Social Studies. These

results, accompanied by statistically significant gains and large effect sizes, stand as

strong evidence that something as accessible as a monthly phone call can change the

academic trajectory of online learners.

What makes these results even more compelling is the way they mirror the qualitative

voices of families themselves. The numbers tell one story; the words tell another, but both

arrive at the same truth. Parents described the communication as "supportive,"

"motivating," and "confidence-building." They felt more informed, more empowered,

and more engaged in their children's learning. These expressions reflect key dimensions

of Epstein's model of school-family-community partnerships, especially the role of

schools in initiating meaningful communication and shared decision-making. When

schools create structured pathways for engagement, families respond, not passively, but

actively, in ways that shape student learning outcomes.

Moreover, the study illustrates how Hoover-Dempsey and Sandler's model of parental

involvement plays out in real time (Hoover-Dempsey & Sandler, 2005). Many parents

noted that they had not previously viewed themselves as instructional partners in the

online space. Yet when communication was initiated by teachers, families reported

feeling "invited" and "included." Their motivational beliefs shifted, and their engagement

with their child's learning deepened. This interplay between teacher initiative and parent response affirms the idea that family involvement is not merely a function of willingness, it is also a product of access, context, and school behavior. When teachers open the door, families are more likely to step through it.

The findings also challenge schools to think differently about how we define and measure engagement, particularly in online environments. While attendance rates in the intervention cohort declined slightly, parent-reported engagement and emotional connection increased. This seemingly contradictory pattern echoes concerns raised by Archambault et al. (2013) regarding "cybertruancy" and the inadequacy of attendance as a proxy for genuine participation. Parents observed that their children were "more confident in class," "participating more," and "less anxious," indicators that reflect cognitive and social presence as described in the Community of Inquiry (CoI) Framework (Garrison et. al., 2000). These forms of engagement may not always be visible in attendance logs, but they are no less critical to academic success.

Taken together, these results underscore a profound truth about virtual education: learning happens at the intersection of instruction and relationship. When the relational thread between teacher and family is strong, students are better positioned to engage, persist, and succeed. This study reinforces the idea that in online schools, where physical presence is absent, relational presence must be intentionally constructed. It is not enough to provide high-quality curriculum or digital access. Without the relational infrastructure, consistent, authentic communication, these tools cannot reach their full potential.

The implications of this work extend beyond PAcyber. In a broader educational landscape where schools are increasingly turning to hybrid or fully online models, the

THE IMPACT OF TARGETED FAMILY COMMUNICATION

findings offer an adaptable, cost-effective intervention that does not require new software, new staff, or new funding. What it requires is commitment: a belief that connection matters, and a willingness to embed that belief into practice. Structured communication can and should be treated as a form of instructional design, one that complements pedagogy, strengthens school climate, and enhances learning.

This study also affirms the power of practitioner research. This study was undertaken not only to investigate a problem but to identify practical solutions that could be implemented within the context of an online learning community. The process of analyzing data, interpreting family feedback, and identifying emergent patterns affirmed what has become increasingly evident in both practice and research: communication is not an accessory to education, it is its backbone. This capstone represents not an endpoint, but a launchpad. It points toward a vision of online education that is not merely efficient, but human, where every student is more than a login and every family is more than a contact record.

In closing, the data are clear, the voices are strong, and the message is simple: when teachers call, students succeed. When schools prioritize connection, learning deepens. And when communication is treated as essential, not supplemental, virtual education becomes not just possible, but personal, powerful, and profoundly effective.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

References

Ahn, J., & McEachin, A. (2017). Student enrollment patterns and achievement in Ohio's online charter schools. *Educational Researcher, 46*(1), 44-57.

Archambault, L., Kennedy, K., & Bender, S. (2013). Cyber-truancy: Addressing issues of attendance in the digital age. *Journal of Research on Technology in Education, 46*(1), 1-28.

Barbour, M. K. (2019). The landscape of K-12 online learning: Examining what is known. In M. G. Moore & W. C. Diehl (Eds.), *Handbook of distance education* (4th ed., pp. 521-542). Routledge.

Bergman, P., & Chan, E. W. (2021). Leveraging parents through low-cost technology: The impact of high-frequency information on student achievement. *Journal of Human Resources, 56(*1), 125-158.

Borup, J. (2016). Teacher perceptions of parent engagement at a cyber high school. *Journal of Research on Technology in Education, 48*(2), 67-83.

Borup, J., Graham, C. R., & Davies, R. S. (2013). The nature of parental interactions in an online charter school. *American Journal of Distance Education, 27*(1), 40-55.

Borup, J., Graham, C. R., & Drysdale, J. S. (2014). The nature of teacher engagement at an online high school. *British Journal of Educational Technology, 45*(5), 793-806.

Borup, J., Chambers, C. B., & Stimson, R. (2019). Online teacher and student perspectives on student-teacher relationships. *British Journal of Educational Technology, 50*(6), 3075-3089.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Camerer, C.F., Dreber A., Holzmeister, F. et al. (2018). Evaluating the replicability of social science experiments in *Nature* and *Science* between 2010 and 2015. *Nature Human Behaviour*, 2(9), 637–644. https://doi.org/10.1038/s41562-018-0399-z

Chall, J. S. (1983). *Stages of reading development*. McGraw-Hill.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Curtis, H., & Werth, L. (2015). Fostering student success and engagement in a K-12 online school. *Journal of Online Learning Research, 1*(2), 163-190.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE.

Dong, C., Cao, S., & Li, H. (2020). Young children's online learning during COVID-19 pandemic: Chinese parents' beliefs and attitudes. *Children and Youth Services Review, 118,* Article 105440. https://doi.org/10.1016/j.childyouth.2020.105440

Doss, C., Fahle, E. M., Loeb, S., & York, B. N. (2019). More than just a nudge: Supporting kindergarten parents with differentiated and personalized text messages. *Journal of Human Resources, 54*(3), 567-603.

Englund, M. M., Luckner, A. E., Whaley, G. J. L., & Egeland, B. (2004). Children's Achievement in Early Elementary School: Longitudinal Effects of Parental

Involvement, Expectations, and Quality of Assistance. *Journal of Educational Psychology, 96*(4), 723–730. (quote on p. 726)

Epstein, J. L. (2018). School, family, and community partnerships: Preparing educators and improving schools. Routledge.

Epstein, J. L., & Sheldon, S. B. (2002). Present and accounted for: Improving student attendance through family and community involvement. *The Journal of Educational Research, 95*(5), 308-318.

Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review, 13*(1), 1-22.

Fiester, L. (2010). *Early warning! Why reading by the end of third grade matters.* Annie E. Casey Foundation.

Garbe, A., Ogurlu, U., Logan, N., & Cook, P. (2020). COVID-19 and remote learning: Experiences of parents with children during the pandemic. *American Journal of Qualitative Research, 4*(3), 45-65.

Garrison, D. R. (2017). *E-learning in the 21st century: A community of inquiry framework for research and practice (3rd ed.)*. Routledge.

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105. https://doi.org/10.1016/S1096-7516(00)00016-6

Glanz, J. (2006).

What every principal should know about instructional leadership. Corwin Press.

Glanz, J. (2014). *Action research: An educational leader's guide to school improvement*. Rowman & Littlefield.

Goodall, J. (2021). Parental engagement and deficit discourses: Absolving the system and solving parents. *Educational Review, 73*(1), 98-110.

Goodall, J., & Montgomery, C. (2014). Parental involvement to parental engagement: A continuum. *Educational Review, 66*(4), 399-410.

Harackiewicz, J. M., Rozek, C. S., Hulleman, C. S., & Hyde, J. S. (2016). Helping parents to motivate adolescents in mathematics and science: An experimental test of a utility-value intervention. *Psychological Science, 27*(8), 1036-1048.

Hasler Waters, L., Menchaca, M. P., & Borup, J. (2014). Parental involvement in K-12 online and blended learning. In R. E. Ferdig & K. Kennedy (Eds.), *Handbook of research on K-12 online and blended learning* (pp. 303-323). ETC Press.

Hedges, L. V., & Rhoads, C. (2010). Statistical power analysis in education research (NCESR 2010-3006). National Center for Special Education Research.

Henderson, A. T., & Mapp, K. L. (2002). A new wave of evidence: The impact of school, family, and community connections on student achievement. Southwest Educational Development Laboratory. https://sedl.org/connections/resources/evidence.pdf

Hernandez, D. J. (2011). Double jeopardy: How third-grade reading skills and poverty influence high school graduation. Annie E. Casey Foundation. https://files.eric.ed.gov/fulltext/ED518818.pdf

Hill, N. E., & Tyson, D. F. (2009). Parental involvement in middle school: A meta-analytic

assessment of the strategies that promote achievement. *Developmental Psychology,*

45(3), 740-763.

Hoover-Dempsey, K. V., Walker, J. M., Sandler, H. M., Whetsel, D., Green, C. L., Wilkins,

A. S., & Closson, K. (2005). Why do parents become involved? Research findings

and implications. *The Elementary School Journal, 106*(2), 105-130.

Ismail, S. A. M. M., & Abdulla, T. (2019). Virtual classrooms and student motivation: A

study of synchronous interaction in online learning. *Journal of Educational*

Technology & Society, 22(1), 123-135.

Jeynes, W. H. (2005). A meta-analysis of the relation of parental involvement to urban

elementary school student academic achievement. *Urban Education, 40*(3), 237-269.

Jeynes, W. H. (2012). A meta-analysis of the efficacy of different types of parental

involvement programs for urban students. *Urban Education, 47*(4), 706-742.

Kraft, M. A., & Dougherty, S. M. (2013). The effect of teacher-family communication on

student engagement: Evidence from a randomized field experiment. *Journal of*

Research on Educational Effectiveness, 6(3), 199-222.

Kraft, M. A., & Monti-Nussbaum, M. (2017). Can schools enable parents to prevent summer

learning loss? A text-messaging field experiment to promote literacy skills. *The*

*ANNALS of the American Academy of Political and Social Science, 67*4(1), 85-112.

Kraft, M. A., & Rogers, T. (2015). The underutilized potential of teacher-to-parent

communication: Evidence from a field experiment. *Economics of Education Review,*

47, 49-63.

Lee, J. S., & Bowen, N. K. (2006). Parent involvement, cultural capital, and the achievement

gap among elementary school children. *American Educational Research Journal,*

43(2), 193-218.

Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call

for data analysis triangulation. *School Psychology Quarterly, 22*(4), 557–584.

https://doi.org/10.1037/1045-3830.22.4.557

Liu, F., Black, E., Algina, J., Cavanaugh, C., & Dawson, K. (2020). The validation of one

parental involvement measurement in virtual schooling. *Journal of Interactive Online*

Learning, 9(2), 105-132.

Mertler, C. A. (2019). *Introduction to educational research*. SAGE Publications.

Molnar, A., Miron, G., Elgeberi, N., Barbour, M. K., Huerta, L., Shafer, S. R., & Rice, J. K.

(2019). *Virtual schools in the U.S. 2019. National Education Policy Center.*

https://nepc.colorado.edu/publication/virtual-schools-annual-2019

Morgan, H. (2020). Best practices for implementing remote learning during a pandemic. The

Clearing House: *A Journal of Educational Strategies, Issues and Ideas, 93*(3), 135-

141.

PAcyber. (2024). About PA Cyber. Pennsylvania Cyber Charter

School. https://pacyber.org/about

Pennsylvania Department of Education. (2025). *Framework for Teacheing: educator effectiveness observation & practice*. Commonwealth of Pennsylvania. https://www.pdesas.org/EducatorFrameworks/EducatorEffectiveness/?SectionPageItemId=12201

Pennsylvania Department of Education. (2025). *Framework for Teaching*. https://www.education.pa.gov/Teachers%20-%20Administrators/Educator%20Effectiveness/Pages/Framework.aspx

Thompson, B. C., Mazer, J. P., & Grady, E. F. (2015). The changing nature of parent-teacher communication: Mode selection in the smartphone era. *Communication Education, 64*(2), 187-207.

U.S. Department of Education, National Center for Education Statistics. (2015). *The condition of education* 2015 (NCES 2015-144). https://nces.ed.gov/pubs2015/2015144.pdf

Williamson, R. (2017). Social media for school communication. Education Partnerships, Inc.

Woodworth, J. L., Raymond, M. E., Chirbas, K., Gonzalez, M., Negassi, Y., Snow, W., & Van Donge, C. (2015). *Online charter school study.* Center for Research on Education Outcomes. https://credo.stanford.edu/sites/g/files/sbiybj6481/f/online_charter_study_final.pdf

Yeager, D. S., Purdie-Vaughns, V., Garcia, J., Apfel, N., Brzustoski, P., Master, A., Hessert, W. T., Williams, M. E., & Cohen, G. L. (2014). Breaking the cycle of mistrust: Wise

THE IMPACT OF TARGETED FAMILY COMMUNICATION

interventions to provide critical feedback across the racial divide. *Journal of*

Experimental Psychology: General, 143(2), 804-824.

Youngers, Tyler, "Effectiveness of blended learning on student engagement" (2014).

Graduate Research Papers. 225. https://scholarworks.uni.edu/grp/225.

Appendices

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Appendix A: IRB Approval

Institutional Review Board
250 University Avenue
California, PA 15419
instreviewboard@pennwest.edu
Melissa Sovak, Ph.D.

Dear Shawn,

Please consider this email as official notification that your proposal titled "The Impact of Targeted Family Communication on Student Engagement and Learning outcomes in Online Education" (Proposal #PW24-048) has been approved by the Pennsylvania Western University Institutional Review Board as submitted.

The effective date of approval is 10/11/2024 and the expiration date is 10/10/2025. These dates must appear on the consent form.

Please note that Federal Policy requires that you notify the IRB promptly regarding any of the following:

(1) Any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented)

(2) Any events that affect the safety or well-being of subjects

(3) Any modifications of your study or other responses that are necessitated by any events reported in (2).

(4) To continue your research beyond the approval expiration date of 08/15/2025, you must file additional information to be considered for continuing review. Please contact instreviewboard@calu.edu

Please notify the Board when data collection is complete.

Regards,

Melissa Sovak, PhD.
Chair, Institutional Review Board

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Appendix B: Informed Consent

Parent Perception Survey Information and Consent

General Nature of Survey: This survey is part of an action research study that is looking at your perception of phone communication you received as a parent or guardian and the impact it had on your student's academic success. You are being asked to complete an eleven-question electronic survey. Your responses will be analyzed to identify connections between your perceptions of the communication you received and the impact on PAcyber 3rd grade student's learning and achievement. As the primary researcher I can be contacted regarding any questions or concerns involving the survey or participation in the survey.

Primary Researcher:

Shawn Lanious, Doctoral Student, California University of Pennsylvania

617 Midland Avenue, Midland, Pennsylvania 15059

724-888-7918

LAN3560@pennwest.edu

Faculty Advisor:

Dr. Stephanie Williams, PennWest University

s_williams@PennWest.edu

Participation in this survey is voluntary.

By completing and submitting the survey the participant is consenting to the data being used for the action research study.

The participant can withdrawal consent at any time by not completing and submitting the survey. All surveys left incomplete and not submitted will not collect any data.

There is no penalty for not completing the survey. There is no reward for completion of the survey.

All data will be kept confidential. The participant remains anonymous. At no time will the survey collect the respondent's name, email address, or identifying information.

There are minimal risks to the participant by completing the survey.

All data collected will have no identifiable information and will be stored in a secure location on via a password protected account. No hard copies or individual copies of any survey will be retained.

All student information used will be de-identified by an honest broker, PAcyber, and will be turned over to the researcher in a de-identified state. Data that will be collected and provided will be deidentified 3rd grade end of quarter and end of course grades, 3rd grade

student attendance, 3rd grade Exact Path scores, and 3rd grade PSSA scores. Deidentified means that there will be no means to match an individual student to any of the data.

The action research and survey have been:

_____ by the PennWest University Institutional Review Board. This approval is effective __/__/__ and expires __/__/__

Appendix C: Honest Broker Statement

As an honest broker responsible for deidentifying and providing data to researchers, I acknowledge and agree to the following:

1. I will maintain strict confidentiality of all data I handle in the process of deidentification and transfer to researchers.

2. I will adhere to all applicable regulations, policies, and best practices for protecting human research participants, including but not limited to:

   - The Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule

   - The Common Rule (45 CFR 46)

   - PAcyber's Institutional policies on data security and confidentiality

3. I will use appropriate safeguards and security measures to protect the data from unauthorized access or disclosure.

4. I will only provide deidentified data to authorized researchers as approved for their specific research protocol.

5. I will not attempt to re-identify any deidentified data or contact research participants.

6. I will report any potential breaches of confidentiality or other issues related to human subject protections to the appropriate institutional authorities immediately.

7. I understand that failure to uphold these responsibilities may result in disciplinary action and/or legal consequences.

By signing below, I affirm that I have read, understand, and agree to uphold these responsibilities in my role as an honest broker.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Signature: _____ Date: _____Printed Name: _____

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Appendix D: Teacher Communication Protocol

2024-2025 K-5 Academy

3rd Grade Teacher Communication Protocol

Communication Expectation:

All teachers should communicate with parent/guardian of all students once per month during the 2024-25 school year.

September - May

Topics of Discussion:

Grades

Pacing

Data

Concerns

Praises

Live Class Updates

Documentation:

All teachers will log their call into the student's Genius Communication Log.

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Self-Tracking Progress:

You can pull your own data at anytime to see who you need to contact, the length of time since contact, and the last type of contact.

Step 1:

Step 2:

Step 3:

(Your report will have all of your students, their current grades, their current pacing, last contact date, and mode of contact)

K-5 Tracking:

We will send an update of call progress on the 25th of each month, beginning with October 25th.

Appendix E: Survey Instrument

Parent Perception Survey Instrument

1. How many times did the 3rd grade teacher contact you via live voice communication (telephone or live online meeting)?

    None

    1-3 times

    3-6 times

    6-9 times

    9 or more times

2. In your opinion the communication frequency was

    Just Right

    Too Much

    Not Enough

3. Based on your answer to question 2, what are the reasons you feel this way?

4. Do you feel that communication from the teacher helped you support your student?

5. Do you feel that communication from the teacher helped increase your student's engagement in live class sessions?

    Yes

    No

    Unable to Answer

6. Based on your answer to question 5, why do you feel the communication increased your student's engagement in the live class session?

7. Do you feel the communication from the teacher helped improve your student's overall attendance?

    Yes

    No

    Unable to Answer

8. Based on your answer to question 7, why do you feel the communication improved or did not improve your student's attendance?

9. Do you feel the communication from the teacher helped improve your student's academic grades in the core subjects of ELA, Math, Science, and Social Studies?

    Yes

    No

    Unable to Answer

10. Based on your answer to question 9, why do you feel communication improved or did not improve your student's grades in the core subjects of ELA, Math, Science, and Social Studies?

11. Does consistent communication from the teacher impact the decision for your child enrollment in PAcyber for next school year?

THE IMPACT OF TARGETED FAMILY COMMUNICATION

      Yes

      No

      Unable to Answer

12. Was your student enrolled in PAcyber last school year, 2023-2024?

      Yes

      No

13. If you answered yes to question 12, would you say that communication between your student's teacher and you were better than last school year 2023-24?

      Yes

      No

      Unable to Answer

14. Based on your answer to question 13, why do feel communication was better or worse in the 2023-24 school year?

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Appendix F: Data Matrix

Research Question	Data Sources	Data Type	Analysis Techniques	Triangulation
RQ1: What impact does consistent, targeted communication from teachers have on student academic outcomes in a third-grade online learning environment?	**Final Grades, Exact Path Diagnostics, Parent Survey**	**Quantitative & Qualitative**	**Descriptive Statistics, Independent Samples t-test, Mann-Whitney U Test, Levene's Test, Cohen's d, Thematic Coding, Cross-Tabulation**	**Grades + Diagnostics + Parent Perception Themes**
RQ2: How does consistent teacher communication impact student engagement, as measured by attendance and participation, in a third-grade online learning environment?	**Attendance Records, Parent Survey**	**Quantitative & Qualitative**	**Descriptive Statistics, Levene's Test, t-test, Mann-Whitney U Test, Cohen's d, Thematic Coding**	**Attendance + Perception Responses + Quotes**
RQ3: How do parents perceive the effectiveness and impact of teacher communication on their child's learning and school experience in a third-grade online environment?	**Parent Survey (Closed-Ended + Open-Ended)**	**Quantitative & Qualitative**	**Frequency Analysis, Thematic Coding, Cross-Tabulation**	**Survey Ratings + Qualitative Themes + Academic Performance**

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Appendix G Raw Data Distributions

This appendix includes visual representations of raw data distributions for key academic indicators referenced in Chapter 4. These figures help illustrate the variability, central tendency, and shape of the distributions for both the baseline and intervention cohorts. The inclusion of these distributions aligns with transparency and replication standards set by the EdD Capstone Guidelines.

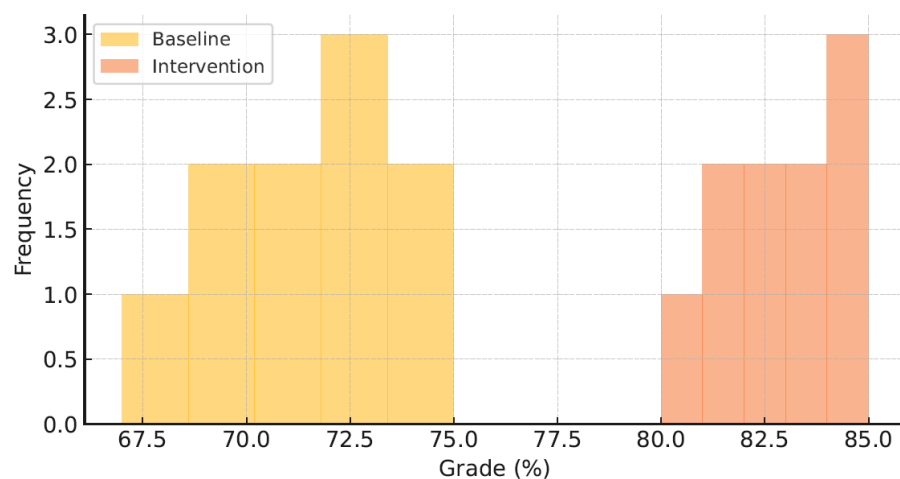**Figure G1. Distribution of Final ELA Grades (Baseline vs. Intervention)**
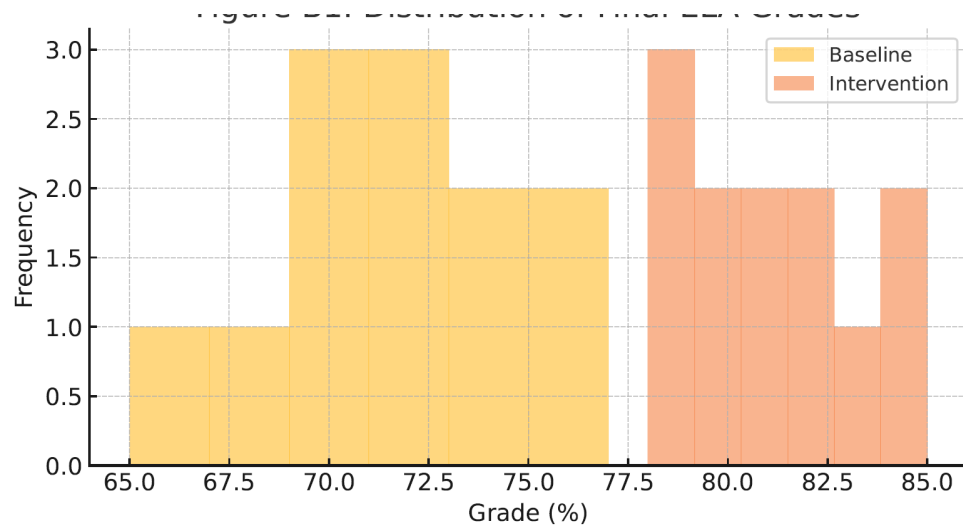
Figure G2. Distribution of Final Math Grades (Baseline vs. Intervention)

THE IMPACT OF TARGETED FAMILY COMMUNICATION

Figure G3. Distribution of Reading Diagnostic Growth (Baseline vs. Intervention)
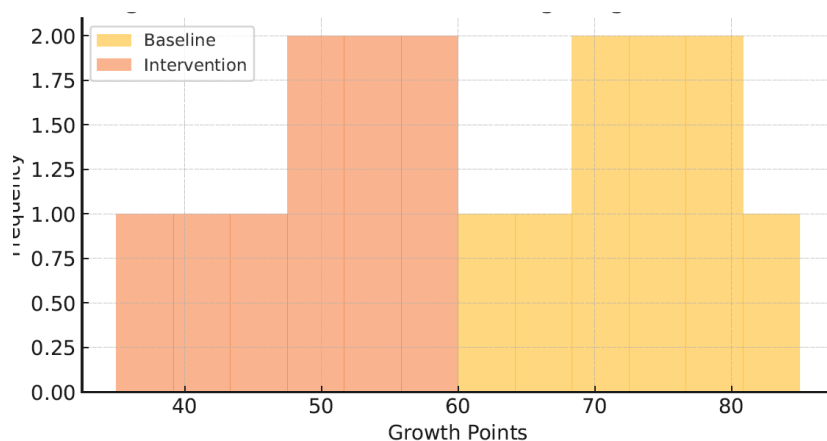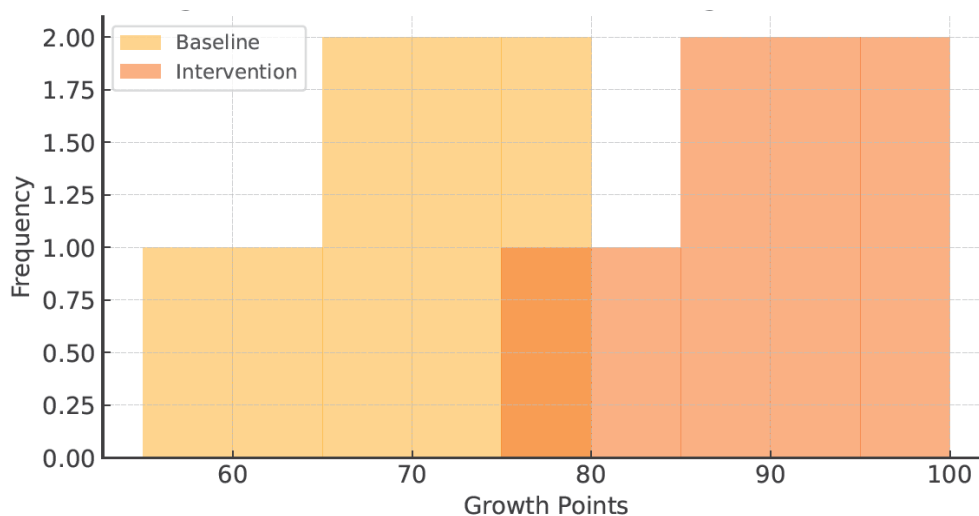

Figure G4. Distribution of Math Diagnostic Growth (Baseline vs. Intervention)

These visuals confirm and contextualize the statistical findings reported in Chapter 4 by providing a clearer understanding of score spread, skew, and potential outliers in the data sets.