CLASS Therapy Model:

Creating SLP and Teacher Partnerships Through

Interprofessional Collaborative Practices in the K-8 School Setting

by

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ABSTRACT

Despite the increasing number of elementary and secondary school students with language and learning disabilities and federal laws mandating ongoing collaboration among diverse school professionals, the implementation and maintenance of Interprofessional Collaborative Practices (ICP) and classroom-based therapy services among teachers and speech-language pathologists (SLPs) is low. Teachers and SLPs need training to implement and maintain ICP and classroom-based therapy services. An interprofessional community of practice (ICoP) framework was developed to operationalize ICP competencies into measurable knowledge, skills, attitudes, and practice behaviors, which were incorporated into the design, implementation, and assessment of the ICoP framework's activities and outputs. Thus, the purpose of this mixed methods action research study was to examine the impact of the ICoP framework on teacher and SLP participants' knowledge and self-efficacy of ICP competencies. The study also sought to build participants' capacity to implement and maintain classroom-based therapy services for students with language and literacy impairments in an inclusive classroom setting. Participants included four general education teachers, five special education teachers, and three SLPs in a K-8 public school district in the southwest region of Arizona. Inferential statistics and thematic analysis were used to analyze participants' responses to surveys, semi-structured interviews, and logbook entries before and after the eight-week innovation. Results from the data analysis showed that teachers and SLPs demonstrated a significant increase in knowledge and self-efficacy of ICP.
Keywords: Interprofessional collaboration, speech language pathologist, special education teacher, general education teacher, classroom-based service delivery

DEDICATION

First and foremost, to my husband, Don, my two kids, Jack and Olivia, and my mom, Laura, this work is dedicated to you with all my love and gratitude. You have been my motivation, my refuge, and my heart. Thank you for being my everything. Don, your unwavering support, boundless love, and endless patience have carried me through this journey. You have been my rock, my confidant, and my inspiration. Your belief in me has been my driving force, and your sacrifices have made this dissertation possible. Thank you for being my partner in every sense of the word. My dear children, Jack, and Olivia, you have shown me the beauty of balance. While I have dedicated countless hours to this work, you have shown me the importance of family, laughter, and wonder. You are my greatest source of joy, and I dedicate this dissertation to you with the hope that it inspires you to chase your dreams fearlessly. Mom, your strength, wisdom, and unconditional love have shaped me into the person I am today. You have been my guiding light, an element of encouragement, and my source of resilience. This dissertation is a testament to the values you instilled in me and a tribute to your enduring support. To my close family and friends, I cannot thank you enough for the unwavering support and love that you have generously bestowed upon me throughout this long and challenging journey. This dissertation reflects the collective effort, sacrifices, and love of all of you. It is dedicated to each one of you with profound gratitude and love.

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INTRODUCTION AND PURPOSE OF THE STUDY

"The true strength in our classroom lies in the collaboration of learners, not in the knowledge of one expert."
-Anonymous

A student's ability to understand and use language plays a significant role in their academic and social success. Students identified with language disorders or demonstrating language deficits may be impacted in one or all modalities of learning in the school setting, including listening, speaking, reading, and writing. In the United States, during the 2020-2021 school year, of the students who received special education services under the Individuals with Disabilities Education Act (IDEA), 33 percent were categorized as having specific learning disabilities (SLD), followed by 19 percent having a speech-language impairment (SLI) (National Center for Education Statistics [NCES], 2022). Among all school-age students served under IDEA, the percentage of students who spent 80 percent or more of their time in general education classes in public schools increased from 59 percent in the fall of 2009 to 66 percent in the fall of 2020 (NCES, 2022) which means more students with disabilities are receiving special education services in the mainstream or general education classroom. Given these current trends in education, school districts face many challenges with supporting the needs of educators at the individual and school levels in providing educational access that is equitable for all students.

Over twenty years ago, the American Speech-Language and Hearing Association (ASHA) identified the need for collaborative partnerships among speech-language

pathologists (SLPs) and teachers by stating that “no one education professional has adequate knowledge and expertise to provide the extensive educational functions needed for diverse learner populations (ASHA, 2001). To this end, collaboration is identified as a necessary and important part of providing effective interventions that are academically and socially relevant to students with Individualized Education Programs (IEPs). However, limited information is available regarding the quality and quantity of collaboration necessary to support increased outcomes for students receiving instruction from diverse teams of education professionals within the kindergarten through eighth-grade school settings.

As the population of students continues to diversify in the American public school system, conversely, the way in which pre-professional education programs and professional learning opportunities are developed and delivered remains rooted in traditional, isolated approaches (Potvin et al., 2017). This means the variety of professionals employed in schools, like general and special education teachers, school psychologists, nurses, counselors, and SLPs, learn about their roles and responsibilities within their narrow areas of expertise, with no or limited opportunities to learn about, from, and with other professionals during their pre-employment education and training. Limited interactions between the classroom teacher and the SLP at the preprofessional or professional level remains a barrier to accomplishing goals for professional collaboration and inclusion of students with language and literacy disabilities because teachers may lack the understanding and preparation to assist students with special education needs in their classes. Alternatively, SLPs are not always versed in the curriculum, academic

standards, or other aspects of educational programming that make a difference in student learning.

It can be challenging for practicing SLPs to implement integrated classroom-based services using the conventional scheduling methods. When SLPs have a large caseload and the school district's administration doesn't support a workload-based approach, delivering collaborative, classroom-based services becomes even more complicated. According to a study by Brandel and Loeb (2011), SLPs have been using the "pull-out" model for over five decades, where students typically receive individual or small group treatment sessions outside the general education classroom, lasting 20 or 30 minutes once or twice a week. This model is consistently used, regardless of the nature or severity of a child's communication disorder, even though our profession has advanced in understanding the importance of tailoring service delivery models to different types of disorders and legal requirements for individualized services. SLPs require additional support from other school professionals and district-wide stakeholders to shift away from traditional practices and explore flexible scheduling strategies and service delivery models that align with students' unique needs. Drawing from my fifteen years of experience as a public school SLP, I've recognized both the advantages and obstacles in establishing collaborative practices and therapy services with other professionals. I aimed to identify practical and sustainable solutions to address this issue.

Over the course of a year, this systematic inquiry was examined through a pragmatist philosophical lens focusing on the process of implementing and evaluating the use of an interprofessional collaborative education and practice framework to implement collaborative, classroom-based service delivery models. The researcher sought to closely

examine how and why different certain collaborative practices and classroom-based service delivery models are sustained or abandoned in the school setting by SLPs and teachers. A mixed-methods action research approach was used to comprehensively answer the research questions and provide sustainable solutions for this problem of practice. The remainder of this chapter outlines the national and local context of the study, including recent data describing the stagnant literacy outcomes occurring at the national and local levels. Reasons for negative student literacy outcomes are discussed and linked to the problem of insufficient interprofessional collaborative learning experiences and training opportunities currently being provided at the pre-professional and professional levels. The problem of practice is then examined through the local context in Arizona, state-wide and compared to outcomes and practices within one large, urban, southwestern, Arizona K-8 public school district. This chapter concludes with a description of action research, previous cycles of research, an explanation of the problem of practice, the purpose of the study, and the research questions guiding the study.

National Context

A significant portion of students in the United States face challenges in attaining proficient academic literacy skills at their respective grade levels, as reported by the National Center for Education Statistics (NCES) in 2012, 2015, and 2022. Factors that play a role in determining literacy proficiency encompass heightened literacy standards, the intricate process of acquiring literacy, the environment for language learning, and the unique traits of individual learners. The Common Core State Standards (CCSS) represent an elevation of state educational standards in the United States during the contemporary era, as outlined by the National Governors Association Center (NGAC) in 2010. These

standards were crafted to tackle the acquisition of 21st-century skills that students should attain upon high school graduation. The CCSS places a strong emphasis on fundamental cognitive skills in each subject area, starting from a young age, as noted by Zygouris-Coe in 2012. These cognitive processes encompass activities like problem-solving, exploration, interpretation, research, and effective communication. Furthermore, the standards incorporate language and literacy components, such as reading, writing, listening, and speaking, throughout their requirements in subjects like English Language Arts (ELA), Social Studies, and Science, as mentioned by Zygouris-Coe in 2012. Critical literacies demand that students engage with both printed and digital texts and multimedia in a manner that fosters deep comprehension (Zygouris-Coe, 2012). In the context of 21st-century classrooms and workplaces, besides a profound comprehension, there is an anticipation for additional skills such as critical thinking, problem-solving, and the ability to employ information in innovative ways (Partnership for 21st Century Skills [P21], 2008).

Based on national achievement data, a significant majority of students face difficulties when it comes to attaining proficiency in reading and writing. This information is supported by sources such as NCES in 2012, 2015, and 2022. The criteria for achieving proficiency, as outlined by the National Assessment of Educational Performance (NAEP), involve students demonstrating a solid command of the subject matter. This includes not only knowledge of the subject but also the ability to apply that knowledge to real-world situations and possess the analytical skills relevant to the subject matter (NCES, 2012, "Achievement Level Policy Definitions"). In contrast, students who do not meet the criteria for proficiency typically display only partial mastery of the

essential knowledge and skills necessary for performing at a proficient level at their respective grade levels (NCES, 2012). Those students who do not meet these literacy proficiency standards are at risk of underperforming academically.

Professionals with Expertise in Literacy Instruction

Many educational professionals, including but not limited to classroom teachers, have the expertise to contribute to collaborative efforts focused on improving literacy instruction, especially for students who require intensive literacy assistance. This expertise extends to general education teachers, special education teachers, reading specialists, literacy coaches, educators specializing in English Language Learners (ELLs), and Speech-Language Pathologists (SLPs), all of whom possess knowledge of instructional methods that aid students in developing academic literacy skills. Consequently, educators are frequently called upon to work together in support of students' language and literacy needs, as highlighted by ASHA (2010), the Council for Exceptional Children (CEC, 2016), the International Literacy Association (ILA, 2010), and Pugach & Blanton (2009). However, a common challenge in schools is the difficulty in maintaining effective collaborative practices among these various professionals for ongoing planning and instruction.

In terms of curriculum design, teaching methods, and overseeing and evaluating students' progress in learning, this is the responsibility of general education teachers, which possess proficiency in specific subject matter (as stated by the National Board for Professional Teaching Standards [NBPTS], 2016). An instance of the Middle Childhood Generalist Standards illustrates that proficient general education teachers utilize reading techniques that leverage students' strengths and cater to their individual needs to help

them make sense of the material. These strategies may encompass skillful use of methods for identifying words, enhancing vocabulary, promoting comprehension, encouraging critical thinking, and improving reading fluency (NBPTS, 2016).

Special education teachers possess a profound understanding of exceptional conditions, the growth and educational progress of individuals with special needs, proficiency in both standard and tailored educational materials, and a wide array of assessment techniques (CEC, 2016). Professional standards dictate that special educators tailor their teaching to optimize the educational achievements of students with special needs, employ research-based strategies that are most efficient in addressing these students' requirements, carry out periodic evaluations, and establish conducive learning settings that foster learning and bolster self-esteem (CEC, 2011).

Speech-language pathologists (SLPs) possess specialized knowledge in the fundamental components of both written and spoken language, are skilled in evaluating language disorders, and utilize evidence-based strategies for language and literacy interventions, as outlined by ASHA in 2010. The various responsibilities of SLPs in educational settings with a focus on literacy include: (a) promoting language development and early literacy to prevent written language difficulties, (b) identifying children who may be at risk for reading and writing challenges, (c) conducting assessments for reading and writing abilities, (d) delivering intervention and documenting progress in reading and writing, (e) taking on additional roles such as aiding teachers and advocating for effective literacy practices, and (f) collaborating with teachers, specialists, and other educational professionals to support the instructional program, all as recommended by ASHA in 2010.

Role of the School-Based Speech Language Pathologist

The American Speech-Language-Hearing Association (ASHA), in both 2001 and 2010, has outlined the duties and obligations of Speech-Language Pathologists (SLPs). ASHA serves as the authoritative body that defines the standards for the professional scope of SLPs and audiologists across diverse work settings. In educational settings, the roles and responsibilities of SLPs are influenced by educational reforms, legal requirements, and the evolution of professional practices as stipulated by ASHA in 2010. ASHA's document, "Roles and Responsibilities of SLPs in Schools" (2010), categorizes SLP roles into four main areas: Critical Roles, Range of Responsibilities, Collaboration, and Leadership. The critical roles are foundational for providing speech-language services that lead to effective outcomes for students and encompass working with students from PreK to grade 12, addressing a wide array of communication disorders, ensuring educational relevance, making distinct contributions to the curriculum, emphasizing language and literacy, and offering culturally sensitive services. Within the realm of literacy, responsibilities include the prevention and identification of literacy issues, the assessment of both spoken and written language, and the implementation of literacy instruction that aligns with the students' developmental stages, as indicated in ASHA's 2001 guidelines. Collaboration, according to ASHA's framework, involves various partnership types, such as working alongside general education teachers, special education teachers, literacy specialists, coaches, occupational therapists, physical therapists, audiologists, counselors, social workers, and district administrators. In terms of leadership, SLPs are responsible for ensuring the appropriate delivery of services in a

variety of ways, which can include advocating for services and designing professional development opportunities for other staff members.

Successful completion of graduate programs in communication sciences and disorders, coupled with active participation in ongoing educational experiences, equips SLPs with the clinical readiness necessary to fulfill a wide range of roles and responsibilities within educational settings. To adhere to the accreditation standards set by ASHA's Council of Academic Accreditation (CAA-ASHA), graduate programs in speech-language pathology must ensure that students accumulate a minimum of 400 supervised clinical education hours spanning diverse clinical settings and addressing various populations. Additionally, these programs must offer opportunities for graduate students to demonstrate their expertise in recognizing and treating speech, language, hearing, and communication disorders and variations. In the realms of receptive and expressive language skills, students should exhibit proficiency in identifying and addressing disorders in phonology, morphology, syntax, semantics, and pragmatics, encompassing speaking, listening, reading, and writing modalities (CAA-ASHA, 2014).

Following the successful fulfillment of these requirements and the completion of an accredited speech-language pathology program, graduate students are then expected to complete a supervised clinical fellowship year before they can earn their Certificate of Clinical Competence in Speech-Language Pathology (CCC-SLP). Once SLPs obtain their CCC-SLP, they must continue to meet ongoing eligibility requirements to maintain their certification, which includes staying current with and implementing evidence-based practices.

Considering the extensive knowledge that SLPs possess regarding the fundamental language aspects of literacy and their responsibility to assist students in various language modes, it becomes evident that SLPs have valuable contributions to make in the efforts to reform literacy. Thanks to their proficiency in the language fundamentals of literacy, SLPs are well-prepared to participate in collaborative literacy initiatives. However, it's worth noting that despite their expertise, there is often a lack of understanding regarding the roles of SLPs in supporting both spoken and written language skills in struggling students. This oversight in recognizing the expertise of professionals in the realm of literacy is problematic, as students who are having difficulty achieving proficient reading and writing levels require high-quality instruction from all educators available.

Collaboration Models in Education

To ensure that every student has the chance to develop critical literacy skills, numerous academics have stressed the significance of educators collaborating, as indicated by various scholarly works (Ehren, 2006; Joffe & Nippold, 2012; Nevin et al., 2009; Paul et al., 2006; Squires et al., 2013; Wallach & Ehren, 2004). Collaboration among educators offers them the opportunity to solve problems, customize their teaching to suit individual students, and foster the creation of knowledge-building learning communities (Pugach & Blanton, 2009). Much of the insights into collaboration as a recommended practice are derived from theoretical and philosophical viewpoints (e.g., Blosser, 2016; Paul et al., 2006; Wallach & Ehren, 2004), research on effective schools (Levine & Lezotte, 1990), qualitative research on successful collaboration elements (e.g.,

Mattessich et al., 2001), and professional standards (e.g., ASHA, 2010; ILA, 2010; NBPTS, 2004).

While the existing body of literature presents evidence regarding the potential advantages of collaboration in educational practices, there is a significant dearth of information concerning what constitutes effective collaborative practices. In simpler terms, educators are unclear about how to optimize the unique skills and expertise of general educators, special educators, and specialists to enhance literacy instruction (Fuchs et al., 2010). One primary reason for this lack of evidence stems from the challenge of defining collaboration in a way that allows for precise measurement of treatment fidelity. This is a fundamental principle in research, yet few have emphasized the absence of clear and quantifiable characteristics of collaboration as a specific issue that requires attention. A secondary reason for the scarcity of evidence on effective collaboration features is the insufficient focus on student achievement outcomes as a means of determining effectiveness. While the research has identified promising attributes and obstacles to collaborative practices, the ultimate measure of value lies in whether collaboration yields tangible improvements in students' literacy skills.

The core concept of collaboration, as outlined by Schrage in 1995, becomes evident in the significant distinctions between interrelated yet separate concepts of cooperation and coordination. Through a qualitative analysis of prosperous organizational collaborations, it becomes apparent that these distinctions hold vital practical implications with respect to vision, interpersonal connections, organizational framework,

role assignments, accountability, resource allocation, and incentive systems, as highlighted by Mattessich and colleagues in 2001. Mattessich and his team, in their qualitative assessment of factors contributing to the success of organizational partnerships, provided the following definitions for the three constructs:

> "Collaboration is a mutually beneficial and well-defined relationship entered into by two or more organizations to achieve common goals. The relationship includes a commitment to mutual relationships and goals; a jointly developed structure and shared responsibility; mutual authority and accountability for success; and sharing resources and rewards" (p. 4-5).

The researchers highlighted differences among collaboration, cooperation, and coordination. Cooperation involves informal relationships without a clearly defined mission, while coordination includes some level of planning and role allocation (Mattessich et al., 2001).

Similarly, Idol et al. (2000) differentiated between collaboration, consultation, and cooperation. They suggested that collaboration implies an equitable distribution of valued knowledge and skills among equally capable participants, resulting in a mutual exchange of knowledge and skills as they work together to achieve outcomes (e.g., Idol et al., 2000, p. 349). In contrast, consultation is a related but distinct concept, describing the partnership between a consultant and a partner who collaborate to benefit a referred student, often involving the sharing of resources and responsibilities.

In their 2000 work, Idol and colleagues introduced a model that melds collaboration and consultation. This collaborative consultation model is characterized by an interactive process, facilitating diverse groups of individuals with various expertise to generate innovative solutions to problems they define together. The outcome is an improved and transformed version of the initial solutions typically produced when group members work independently (Idol et al., 2000, p. 1). The collaborative consultation process involves a sequence of six decision-making steps, with fundamental elements that encompass: (a) a shared agreement among group members to regard everyone, including learners, as possessing unique and indispensable expertise; (b) frequent in-person interactions; (c) the distribution of leadership responsibilities and mutual accountability for agreed commitments; (d) an understanding of the significance of reciprocity, with an emphasis on task-related actions or relationship-building actions based on factors such as the support from other members or their skill in advancing the group's objectives; and (e) a commitment to actively enhance social interaction and task accomplishment skills through the process of consensus building. In contrast, when group members cooperate, they work toward shared goals but remain separate and autonomous, relying on one another for information to enhance their programs (Hord, 1986). It's essential to differentiate between these distinct constructs to clearly define the essential aspects of literacy partnerships and to assess how faithfully they are implemented.

In the realm of education, the attributes of collaboration outlined by Friend and Cook in 2012 have significantly influenced the body of knowledge concerning co-teaching. Friend and Cook's (2012) work identified the following qualities of collaboration: (a) participation by choice, (b) equal standing among participants, (c)

common objectives, (d) joint responsibility for involvement and decision-making, (e) pooled resources, and (f) collective accountability for results. While co-teaching may be a component of collaboration, it's important to note that co-teaching doesn't necessarily guarantee that all the fundamental elements described as collaboration in this study have been fulfilled.

Friend and Cook's (2012) characteristics have served as a foundation for designing literacy partnership models. Paul et al. (2006) outlined a set of actions for literacy partners to follow within a collaborative model, which encompassed (a) the selection of key individuals for the partnership, (b) the determination of suitable literacy instruction goals and priorities, (c) the identification of specific teaching strategies, (d) the engagement in joint problem-solving and shared responsibility for literacy outcomes, and (e) the establishment of common student goals based on their literacy strengths and needs. Blosser (2016) further developed these actions into a six-stage collaboration process, offering a more structured approach. However, it's important to note that Blosser's (2016) model lacks a measurable way to define key features and has not yet been empirically validated.

While these guiding principles for literacy partnerships provide a starting point for creating a collaboration protocol, further research is required to investigate whether implementing such a protocol leads to improvements in student performance. Additionally, research is needed to offer insights into the optimal delivery of language and literacy content, considering factors such as explicit teaching, dosage/intensity, and scaffolding, especially for students who face challenges in literacy.

Another term associated with teamwork in the medical sector, and to a certain extent in higher education, is referred to as interprofessional collaborative practice (ICP). ASHA has embraced the World Health Organization's (2010) description of ICP. The concept of ICP was elucidated in the ASHA 2016 Schools Survey as the cooperative effort of two or more professionals from various disciplines working together to provide all-encompassing, unified services in a school environment. These services could involve collaborative actions in developing and implementing treatment plans for students facing language and literacy difficulties, as an example.

National Engagement and Barriers to ICP in Schools

Insufficient empirical research exists to facilitate the effective implementation of interprofessional collaborative practices at the elementary and secondary school levels (Cirrin & Gillam, 2008; Howe, 2008). Although a lack of data exists in the education system, interprofessional education (IPE) and ICP are not new concepts in research literature. In fact, these collaborative approaches have been extensively studied in the health profession for more than fifty years (Arora et al., 2019; Kerins, 2018). In 2010, the World Health Organization (WHO) conducted an executive summary that stated, "Patients receiving care from interprofessional teams reported increased satisfaction and acceptance of care in addition to improved health outcomes in acute and primary healthcare settings (WHO, 2010). The ICP approach is believed to provide school-based professionals with more efficient and effective practices that focus on the individual needs of our diverse student population (Pfeiffer et al., 2019).

The 2019 ASHA Schools Survey found that 53.5% of SLPs' stated the biggest hurdle toward implementing ICP was having enough time for collaboration, followed

closely by insufficient knowledge, administrative support, and scheduling conflicts inhibiting the implementation of more effective service delivery models (ASHA, 2019). Another survey conducted by Pfeiffer et al. (2019) noted that practicing professionals were less likely to engage in collaborative work if no prior training in collaboration occurred at the preprofessional education level. However, most university academic programs and professional development on collaboration and implementation of classroom-based service delivery models do not exist, so practitioners are often not adequately prepared to participate in interprofessional collaborative school teams (Pfeiffer et al., 2019). In summary, currently, available research supports the use of collaboration to promote student achievement; however, SLPs working in the school setting often lack time to gain the necessary knowledge, resources, and support needed to engage in ICP in addition to the meager research literature available to effectively implement and measure outcomes related to ICP in the education system.

Situated Context

The Arizona Department of Education provides online data for Arizona's annual achievement on the state-wide assessment (formerly known as AZM2) of English Language Arts (ELA) and Math proficiency for students in grades three through eight (Arizona Department of Education [ADE], 2022). The ELA proficiency levels are demonstrated in Tables 1 and 2 below, with a report of student percentiles in the participating district and Arizona during the Spring of 2022. For all third through eighth-grade students, a higher percentage of the district students (68%) did not meet proficiency than the Arizona average (60%). Similar results occurred for students with disabilities, in that a higher percentage of the district students with disabilities (95%) did not meet

proficiency compared to the Arizona average of students with disabilities (87%). In Arizona, students with and without disabilities in the proficient range or higher score higher on average (53%) than students with and without disabilities in the district (37%).

Table 1

District Student Percentile Scores on the 2022 ELA Section of AZM2 State Assessment

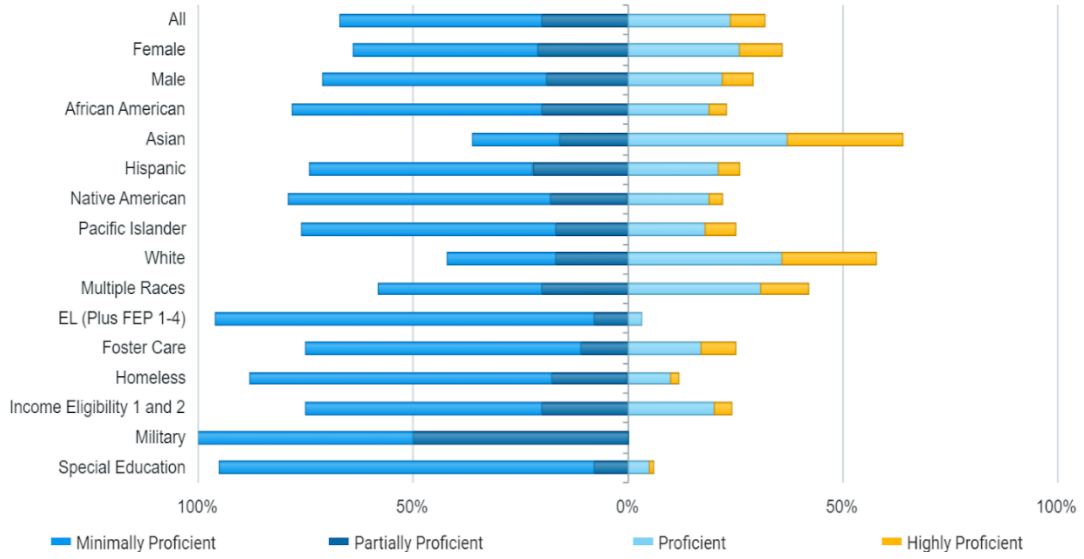
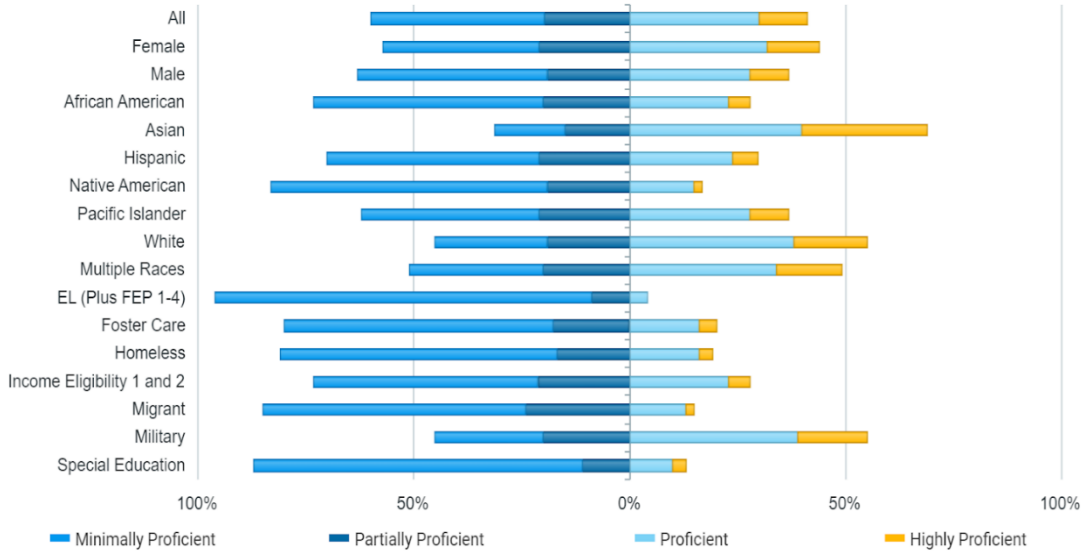


Table 2

Arizona Student Percentile Scores on the 2022 ELA Section of AZM2 State Assessment



Many factors may be contributing to lower proficiency scores for the district's students when compared to the Arizona average, including a lower socioeconomic population, culturally and linguistically diverse student population, and more teachers with fewer than three years of experience (National Center for Education Statistics [NCES], 2022).

Local Engagement and Barriers to ICP in Schools

Throughout this researcher's career in the schools, many SLPs, from novices to veterans, have expressed a desire to engage in therapy services that are more collaborative in nature and support students' engagement with the curriculum and academic standards. In the researcher's current role as the SLP Chairperson in the district, she sought to address existing barriers inhibiting the use of collaborative practices and classroom-based therapy services employed by teachers and SLPs in the district. The researcher conducted a quantitative survey during the 2021/2022 school year and identified that only ten percent of SLPs in the district were implementing some form of classroom-based services or therapy using the curriculum. The Tempe Elementary School District Student Support Department has identified an annual goal for the 2022/2023 school year to provide increased inclusion of students with disabilities and establish a Multi-Tiered System of Support (MTSS) framework across the district. To address this goal, the district's speech and language department has established a strategic plan to develop classroom-based therapy services in the schools to provide quality, ongoing, comprehensive speech-language assessment, and academically relevant interventions for students with IEPs.

Within the researcher's own college experience, despite knowing early on that she wanted to be employed in the schools, her university education and training consisted of

a one-semester course in school-based speech therapy and one twelve-week practicum in an elementary school. The researcher valued the education and mentoring she received; however, these experiences did little to prepare her for the expansive role and extensive workload required to be a successful school based SLP. Once the researcher's career began in the schools, very little changed regarding exposure to other professionals or opportunities for knowledge-building in other educational disciplines. The systemic structure of the district's policies and practices has begun to build more opportunities for general education and special education teachers' collaborative planning and data review, but other related service providers are not factored into the equation. The school districts' training and professional development focus on topics geared primarily toward general education teachers or, conversely, are department and discipline specific. School-based SLPs are in a unique position where they are responsible for examining a student's communication skills across all ages, grades, and school settings, so they can support teachers in many ways. To maintain a student-centered approach to speech therapy practice, developing more opportunities for interprofessional engagement with teachers, other related service providers, families, and caregivers is imperative for our students to succeed.

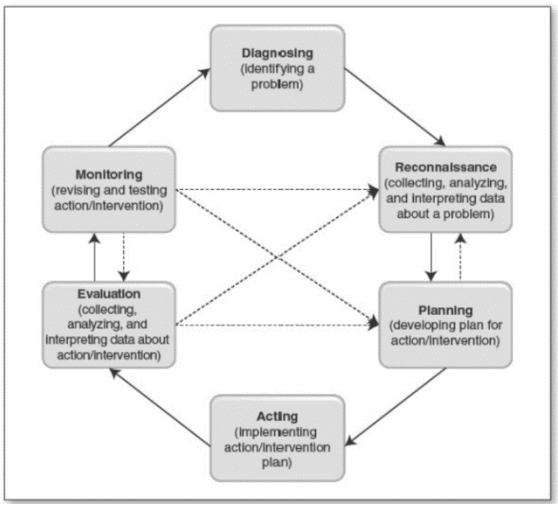
Mixed-Methods Action Research

Mixed-methods action research is a research methodology that combines both qualitative and quantitative methods to investigate and bring about change in real-world settings (Ivankova, 2015). It is a collaborative and iterative approach that involves active participation from researchers, practitioners, and stakeholders to identify and address practical problems or challenges (Ivankova, 2015). There are several key steps involved

in a mixed methods action research methodology, beginning with the identification of a problem, then conducting a reconnaissance cycle for initial analysis of the problem. The researcher then uses that information to create, act, evaluate, and monitor the plan in subsequent cycles of research (Ivankova, 2015). A visual of the mixed-methods action research framework is provided in Figure 1 below.

Figure 1

Mixed Methods Action Research Framework



Note. MM=mixed methods

While changes in educational practice are often seen as slow-moving, how we approach language and literacy instruction for current and future generations of students must be reevaluated. Schools can no longer rely on the traditional models of pedagogy, if we, as a society, are to keep up with the demands of technological development and equitable social justice needed in the coming century. This mixed-methods action research project will develop a framework for educational professionals' implementation and maintenance of co-learning and capacity building for interprofessional collaborative practices and classroom-based therapy services.

Cycle 0: Reconnaissance Study

The Cycle 0 study, conducted during the 2021/2022 school year, sought to identify teachers' and SLPs' perceived benefits and barriers to implementing and maintaining collaborative teaming and interprofessional practices that result in positively perceived educator and student outcomes. Following examination of the current literature, the researcher developed and then conducted a qualitative semi-structured interview with five SLPs, two general education teachers, and three special education teachers currently employed in a mid-size, urban public school district in the southwestern part of Arizona. The researcher was specifically focused on collecting and analyzing teacher and SLP data to determine the perceived and experienced barriers and benefits to participation in collaborative service delivery models within their schools. Additionally, the researcher wanted to identify possible indicators or measures of interprofessional collaborative practice already occurring within the participant sample.

Cycle 0 data allowed the researcher to identify gaps in current professional development available to employees in the district and the necessary level of support needed for the successful implementation of interprofessional practice and classroom-based service delivery models within schools. The interviews were recorded, transcribed, and analyzed using thematic analysis. Data analysis identified that very few SLPs or teachers in the district were participating in ICP or classroom-based service delivery models (10%). Three common themes emerged through the thematic analysis of the semi-structured interviews; they included a need for clearly defined roles and responsibilities among team members and increased time for collaboration. Additionally, having the administrators' support played a significant role in the positive or negative

experiences identified while implementing collaborative service delivery models. To address these three factors, the researcher developed a simple logic model to facilitate a brief workshop and an interprofessional community of practice (ICoP) that focused on SLPs and teachers developing interprofessional practices through the process of developing collaborative goal-writing skills.

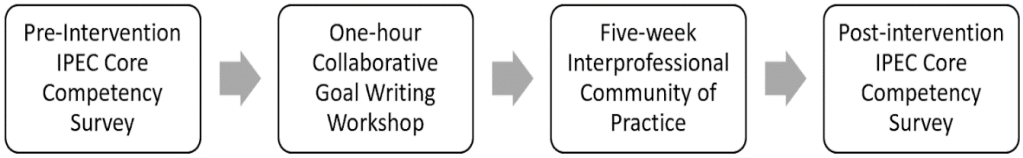
Cycle 1: Innovation Pilot Study

The purpose of the pilot study was to explore the effects of an interprofessional community of practice among teachers and SLPs at two middle schools that focused on developing a process for implementing collaborative goal writing practices for students receiving language and literacy services on their IEP. This pilot study was designed, implemented, and analyzed using a simplified logic model framework. This study used a convenience sample with eight total participants. These participants included an SLP/SET team and an SLP/GET team at each school that shared at least one student with language and literacy goals on their IEP. The ICP teams participating in the pilot study were employed at two different middle schools with similar student demographics in the district during the 2021-2022 school year. The innovation consisted of a one-hour interprofessional education (IPE) workshop that provided the teachers and SLPs with an introduction to ICP and collaborative goal writing, followed by a five-week interprofessional Community of Practice (ICoP). During the goal-writing ICoP, the SLPs and teachers engaged in a weekly 45-minute collaborative meeting to review student data and implement collaborative goal-writing practices. Due to the time limitation and availability of participants during this study cycle, the researcher used a simplified logic model framework to identify the action steps and outcome measures for the IPE

workshop, resources, data collection tools, and ICoP framework. See Figure 2 for a visual description of the simplified logic model.

Figure 2

Cyle 1 Interprofessional Community of Practice Simplified Logic Model



The researcher piloted a modified version of the Interprofessional Education Collaborative (IPEC) Core Competencies Survey for the education setting to quantitatively measure participants perceived changes in knowledge, attitudes, and self-efficacy toward interprofessional collaborative practices and collaborative goal writing before and after engaging in the IPE workshop and ICoP (Dow et al., 2014). Significant changes were observed in all pre-and post-intervention ratings of self-competency for both SLPs and three out of four teacher participants. This preliminary data shows promising evidence for using an IPE workshop and ICoP to implement additional collaborative practices among SLPs and teachers in the K-8 school setting.

Implications for Subsequent Action Research Cycles

Since participants were from different professional backgrounds, the researcher expected that there would be different assumptions, biases, and perceptions identified throughout the initial participant interviews and additional cycles of action research. Collectively transitioning a school system from a multidisciplinary approach to interprofessional practice that supports collaborative and classroom-based service

delivery is no small feat. This goal requires a systems-level change in how school professionals approach service delivery for students with IEPs and the design and delivery of professional development that supports engagement in interprofessional education experiences. Thus, additional iterations of the research process are necessary to inform the ongoing development of the logic model framework and implementation of the IPE workshop and ICoP innovation.

Problem of Practice

It is proposed that interprofessional collaborative practices lead to more satisfying and enduring professional relationships, shared responsibility for educating diverse students, and collective accountability for student outcomes. Collaborative practices between SLPs and teachers involve ongoing cooperation and sharing of knowledge and experience to improve student outcomes. Many studies provide evidence of the perceived benefits among diverse professionals when applying collaborative teaming through ICP at the pre-professional and professional levels. However, research on the implementation and outcomes of interprofessional collaboration is scant for professionals working in the education system, where student demographics and professional expectations are quickly and continually changing. Thus, while many professionals seek collaborative partnerships within their school setting, existing evidence-based practices are not always clearly translated from the research literature to implementation in their day-to-day practices. This research-to-practice gap is evident among teachers and SLPs working in isolation across the Preschool to High School continuum.

This study was pursued to address the significant problem of inadequate training and application of collaborative practices in the K-8 school setting that likely led to inequitable and inefficient practices among education professionals and negative literacy performance for students with disabilities. Many systemic barriers exist within the school system; thus, more clearly defined, and easy-to-execute processes are necessary for education professionals to implement and sustain higher levels of collaboration.

Purpose of the Study

This research aims to design, implement, and evaluate an interprofessional collaborative education and practice framework, coined the Collaborative Language and Speech Services (CLASS) Therapy Model, designed to build shared knowledge and collective implementation of interprofessional practices among teachers and SLPs in the public school system. Interprofessional learning outcomes will focus on kindergarten to eighth-grade teachers and SLPs building shared knowledge of each other's professional roles and responsibilities, developing communication and team-building skills, and creating and implementing shared treatment plans and classroom-based service delivery models for students with language and literacy needs (Pinto Zipp et al., 2014; Prelock & Apel, 2013; Zraick et al., 2014).

This project will contribute to the body of knowledge needed to address the lack of SLP and teacher interprofessional collaborative practices and classroom-based therapy services being conducted in elementary and middle schools. Additionally, this action research project will provide a framework for other school districts seeking to implement more collaborative practices among diverse groups of educators, and those seeking to implement classroom-based therapy services among SLPs and teachers. This innovation

will provide stakeholders with outcome data related to the participant's perceived gains in knowledge and self-efficacy toward interprofessional collaboration. As well as outcome data related to the implementation process, changes in professional practice, and perceived benefits that translate to improved language and literacy outcomes for students. The research will provide district and school administrators with additional data related to perceived and experienced barriers to implementing interprofessional collaborative practices and provide additional recommendations for future research related to practicing professionals in the education setting.

Research Questions

RQ1: How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' collective knowledge and self-efficacy of interprofessional collaborative practices?

RQ2: How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' implementation and maintenance of interprofessional collaborative practices and classroom-based therapy services?

RQ3: What perceived successes and barriers do SLPs and teachers experience following participation in the CLASS Therapy Model framework?

Summary

In summary, a complex problem persists with the lack of knowledge and experience in interprofessional collaboration that teachers and SLPs are exposed to at the

pre-professional and professional levels. Information was presented to demonstrate how limitations in education professionals' ability to successfully implement and maintain collaborative practices may negatively affect students' language and literacy outcomes, especially for students with disabilities being instructed in the general education setting. As the SLP chairperson for the district, this problem of practice and action research study allows the researcher to expand her leadership role by facilitating changes in teachers' and SLPs' capacity to engage in more purposeful interprofessional collaborative practices and classroom-based service delivery models in their schools.

CHAPTER 2

THEORETICAL PERSPECTIVES AND RELATED RESEARCH

"*There is nothing so practical as a good theory."*
-Kurt Lewin

As mentioned previously, foundations in oral language are crucial to reading and writing development (Wolf Nelson et al., 2001). Language comprehension and expression are required to demonstrate academic achievement in all content domains. Communication skills are essential for academic and post-academic success. Despite the evidence, many SLPs and teachers continue to provide language and literacy interventions in separate classroom environments and with different curricula and pedagogical frameworks. While many SLPs and teachers perceive advantages to implementing collaborative services and interprofessional practices, they also report systemic barriers and differing intrapersonal skills as the cause of resistance and implementation failure (Pfeiffer, 2019).

Collaboration at the interprofessional level requires professionals with diverse expertise to acquire knowledge and skills that may or may not be addressed during their pre-professional training (Pfeiffer, 2019). School leaders have a unique opportunity to cultivate more collaborative practices among diverse school team members by identifying an individual's current level of ability and providing professional development through job-embedded learning experiences. To this end, the researcher considered several applicable theories within the disciplines of sociology, psychology, and education to address the overarching objective of designing and implementing an interprofessional education and collaborative practice framework for diverse professionals in the education

setting. Since the impetus of this research was to explore the learning process, as defined as:

> A relatively permanent change in behavior with behavior incorporating both observable activities along with internal processes such as thinking, attitudes, and emotions (Burns, 1995)

The researcher uses elements of social constructivism, adult learning theory, and the theory of self-efficacy to guide the design, implementation, and evaluation of the innovation. First, a description of the theory, supporting research, and connections to the innovation are provided. The theories of social constructivism and adult learning theory inform the innovative learning opportunities that facilitate the acquisition of knowledge and skills related to interprofessional collaboration. The theory of self-efficacy is introduced as a critical personal attribute for SLPs and teachers learning to implement interprofessional collaborative practices.

The next section of this chapter discusses the conceptual framework and related literature used to develop the logic model for the innovation. An introduction to interprofessional education (IPE) and interprofessional collaborative practice (ICP) is given, along with the application of the ICP competencies in the context of supporting the learning and implementation process of ICP. The chapter concludes with a description of job-embedded professional development, communities of practice, reflective learning, experiential learning, and logic model as a means of constructing a framework for SLPs and teacher's implementation and maintenance of classroom-based service delivery models along with the supporting research evidence.

Theoretical Framework

Social Constructivism

Social constructivism, a social learning theory developed by Russian psychologist Lev Vygotsky (1978), postulates that learning is a collaborative process that takes place within a social context, where individuals actively construct knowledge through interactions with their environment and other people. According to this theory, learners don't simply absorb information passively; instead, they actively engage with their surroundings, interpret new information based on their existing knowledge, and create their understanding of the world (Vygotsky, 1978). Social interaction, collaboration, and dialogue are key components of this theory, as they enable learners to negotiate meaning, challenge their understanding, and develop more complex mental models (Vygotsky, 1978).

Socio-cultural Learning Theory

Socio-cultural learning theory, a derivative of social constructivism, emphasizes the role of social interactions and cultural context in shaping cognitive development (Vygotsky, 1978). According to this theory, learning is a collaborative process where individuals learn from each other through shared experiences, discussions, and interactions (Vygotsky, 1978). Key concepts of this theory include the zone of proximal development (ZPD), scaffolding, and social interaction. ZPD refers to the range of tasks that a learner can perform with the help of a more knowledgeable individual (Vygotsky, 1978). Collaborative learning within the ZPD promotes cognitive growth. Scaffolding involves providing temporary support to learners as they engage in new or challenging tasks (Vygotsky, 1978). Gradually, the support is reduced as learners gain competence.

Lastly, learning is enhanced through interaction with others using group activities, discussions, and cooperative tasks that foster learning and development (Vygotsky, 1978).

Socio-cultural learning theory has been applied to the design and implementation of interprofessional education and practice innovation. Socio-cultural learning theory creates opportunities for learners from various disciplines to engage in collaborative activities to promote social interaction and shared experiences. Facilitated learning occurs by providing support when introducing new and complex interprofessional concepts, competencies, and collaborative service delivery models. The concept of ZPD is used to match learners with different levels of expertise and experience in collaborative teaming and instructional models (Vygotsky, 1978). As learners become more comfortable, the facilitator gradually reduces the level of guidance provided. During the learning process, education professionals with more experience can guide and mentor those with less experience. Regular reflection of interprofessional experiences occurs throughout the innovation process. This promotes deeper understanding and insight, thereby moving from a collective group learning experience to a means of internalized individual learning (Vygotsky, 1978). The innovation provides learners with opportunities to apply interprofessional collaboration in their practice settings, such as during the assessment and instruction of students with language and learning deficits on their caseload. Lastly, socio-cultural learning theory embraces diverse cultural backgrounds and perspectives among learners (Vygotsky, 1978). This enriches interprofessional interactions that occur within the diverse cultural contexts found in school settings.

Adult Learning Theory

Developed by Malcolm Knowles (1968), Adult Learning Theory, also known as andragogy, emphasizes that adults learn differently from children and have specific characteristics that influence their learning process. Key principles of adult learning theory assume that adult learners are independent and self-directing, have accumulated, vast experiences, value learning that integrates into the demands of their daily lives, are interested in problem-centered approaches, and motivated by internal drivers (Kaufman, 2003; Knowles, 1990; Tough & Knowles, 1984). When designing professional development programs for working professionals, these key components should be considered to create engaging and impactful learning experiences.

Considerations for activities and outputs. The first key component of adult learning theory is considering the relevance and experience of the activities being provided (Knowles, 1990). Adults are more likely to engage in learning when they can relate the content of learning activities to their current experiences and real-world situations. Secondly, adult learning should be self-directed (Knowles, 1990). Adults tend to take more ownership of their learning process so it's important to provide opportunities for participants to set their own learning goals, choose their learning methods, and explore topics of interest within the professional development offerings. Self-directed learning allows participants to reflect on their own experiences (Knowles, 1990). Adult learners are given continuous opportunities to reflect on how interprofessional collaboration benefits their specific school and team contexts throughout the innovation. Adult learning theory recommends the integration of problem-

solving activities that mirror the challenges encountered within real education settings (Knowles, 1990). Collaborative problem-solving tasks that promote critical thinking and teamwork skills should encourage working professionals to apply their collective expertise to find solutions. In addition to collaborative problem-solving, adults appreciate learning when they can see the immediate relevance and application of the knowledge and skills they are acquiring (Knowles, 1990). The innovation includes opportunities for participants to practice interprofessional communication, teamwork, and decision-making skills in their school settings.

Considerations for facilitators. Other key components of adult learning include facilitators' use of collaborative learning strategies. Collaborative learning strategies could include group discussions, case-based activities, and role-playing team scenarios (Knowles, 1990). Collaborative learning allows professionals to learn from each other's experiences and perspectives, fostering a dynamic and inclusive learning environment. Facilitators should provide flexible and convenient learning opportunities (Knowles, 1990). It's important to recognize that working professionals have busy schedules, so flexible learning options should be provided. Examples of flexible learning options include online modules, webinars, and workshops that can be accessed at convenient times. This accommodates their work commitments and allows them to engage with the material at their own pace. Lastly, facilitators should provide regular opportunities for feedback on learning progress and performance (Knowles, 1990). A key role of the facilitator is to encourage participants to reflect on their experiences and consider how interprofessional collaboration has influenced their practice. This reflective process enhances understanding and retention of concepts.

Considerations for the framework. The last two major components of adult learning theory include providing learning opportunities in real-world contexts and opportunities for continuous learning and development (Knowles, 1990). Interprofessional education experiences should integrate real-world examples that demonstrate the challenges and successes of interprofessional collaboration in their work setting (Knowles, 1990). Members should discuss the complexities, conflicts, and benefits that arise when professionals from different backgrounds work together. Emphasis should also be placed on the importance of ongoing learning and development (Knowles, 1990). Ongoing professional development in the context of evolving educational practices will be the focus of the community by encouraging participants to seek out new information and stay up to date on the latest trends in interprofessional collaboration and classroom-based service delivery models. By tailoring the interprofessional education and practice framework to align to adult learning theory principles, the researcher can create a more engaging, relevant, and effective learning experience for diverse working professionals that fosters improved collaboration and student-centered outcomes.

Theory of Self-Efficacy

Albert Bandura's (1977) theory of self-efficacy is a psychological concept that refers to an individual's belief in their ability to successfully perform a specific task or achieve a particular goal. It's essentially about a person's confidence in their own capabilities to handle different situations and challenges. This theory suggests that self-efficacy plays a significant role in determining how people approach goals, tasks, and challenges in their lives (Bandura, 1977). The higher the level of self-efficacy, the more

likely individuals are to set ambitious goals, persevere in the face of difficulties, and recover from setbacks (Bandura, 1977). Bandura identified several sources that contribute to the development of self-efficacy, including mastery experience, vicarious experience, social persuasion, and emotional and physiological states (Bandra, 1977).

Mastery experience involves the importance of having success in previous similar tasks or challenges that increase self-efficacy, while experiences of failure lower it (Bandura, 1977). Successfully overcoming obstacles during mastery experience leads to a sense of competence and boosts confidence (Bandura, 1977). Observing others succeed can also enhance self-efficacy through vicarious experience (Bandura, 1977). When people see someone like themselves accomplishing a task, they tend to believe they can do it too (Bandura, 1977). Social persuasion through encouragement, feedback, and positive reinforcement from others can influence self-efficacy (Bandura, 1977). Constructive feedback and support can boost confidence, while criticism can lower it (Bandura, 1977). Lastly, positive emotional states and low levels of stress and anxiety can increase self-efficacy, as they help individuals focus on the task at hand rather than being preoccupied with negative emotions (Bandra, 1977).

Collaboration between professionals in the field of education, such as SLPs and teachers, is crucial for providing comprehensive and effective support to students, especially those with language and learning disabilities. Bandura's theory of self-efficacy has many important implications to the collaboration of SLPs and teachers. For example, SLPs and teachers need to collaborate effectively to create a supportive learning environment for students. If both parties have a strong sense of self-efficacy, they will be more likely to engage in collaborative efforts, share ideas, and work together to address

the diverse needs of students (Archibald, 2017). Teachers and SLPs can serve as models for each other. A study by Girolametto, Weitzman, and Greenberg (2012) found that when SLPs and teachers observe successful collaboration and positive outcomes from joint efforts, they can reinforce each other's self-efficacy beliefs. This, in turn, leads to more willingness to collaborate in the future (Girolametto et al., 2012). While social constructivist learning environments emphasize collaboration and interaction with peers, learning within a social context can positively or negatively impact self-efficacy (Bandura, 1977). Positive interactions and successful collaborative experiences can enhance an individual's confidence in their abilities, thereby boosting their self-efficacy, and encouraging further collaboration (Girolametto et al., 2012). Whereas negative feedback should be delivered in a way that doesn't undermine a learner's confidence (Bandura, 1977). Lastly, collaborative teams can set shared goals for student success (Bandura, 1977). When both SLPs and teachers believe in their collective ability to support students effectively, they are more likely to invest time and effort in achieving these goals (Hartas, 2004).

Conceptual Framework and Related Literature

Interprofessional Education

Interprofessional Education (IPE) refers to an educational approach that involves students from different healthcare professions learning together to develop collaborative and patient-centered care skills (Dixon, 2015). It aims to foster effective teamwork, communication, and understanding among healthcare professionals to improve patient outcomes (Ludwig & Kerins, 2019). In traditional healthcare education, students from various professions (such as medicine, nursing, pharmacy, physiotherapy, social work,

etc.) often receive education and training separately, leading to limited opportunities for interaction and collaboration (Ludwig & Kerins, 2019). IPE seeks to bridge this gap by providing structured learning experiences where students from different disciplines come together to learn about each other's roles, responsibilities, and expertise (Ludwig & Kerins, 2019).

The goals of Interprofessional Education are enhancing teamwork and collaboration, improving patient outcomes, breaking down professional stereotypes, enhancing problem-solving skills, and promoting lifelong learning (Bridges et al., 2011). IPE promotes the understanding of each profession's unique contributions to patient care, improves communication skills, and encourages mutual respect and trust among healthcare professionals (Bridges et al., 2011). This collaborative approach leads to improved teamwork in real-world healthcare settings (Bridges et al., 2011). By learning together, healthcare students gain a better understanding of the comprehensive and holistic approach to patient care (Bridges et al., 2011). This interdisciplinary perspective helps in identifying and addressing patient needs more effectively, resulting in improved patient outcomes and satisfaction (Bridges et al., 2011). IPE helps break down professional stereotypes and encourages students to recognize and value the expertise and perspectives of other healthcare professionals (Bridges et al., 2011). This leads to a more inclusive and patient-centered approach to care. By working in interprofessional teams, students learn to solve complex healthcare problems together. They learn to integrate knowledge from different disciplines, consider multiple viewpoints, and develop comprehensive care plans (Bridges et al., 2011). IPE cultivates a culture of continuous

learning and professional growth. Students develop the skills to collaborate, adapt, and integrate new evidence-based practices throughout their careers (Bridges et al., 2011).

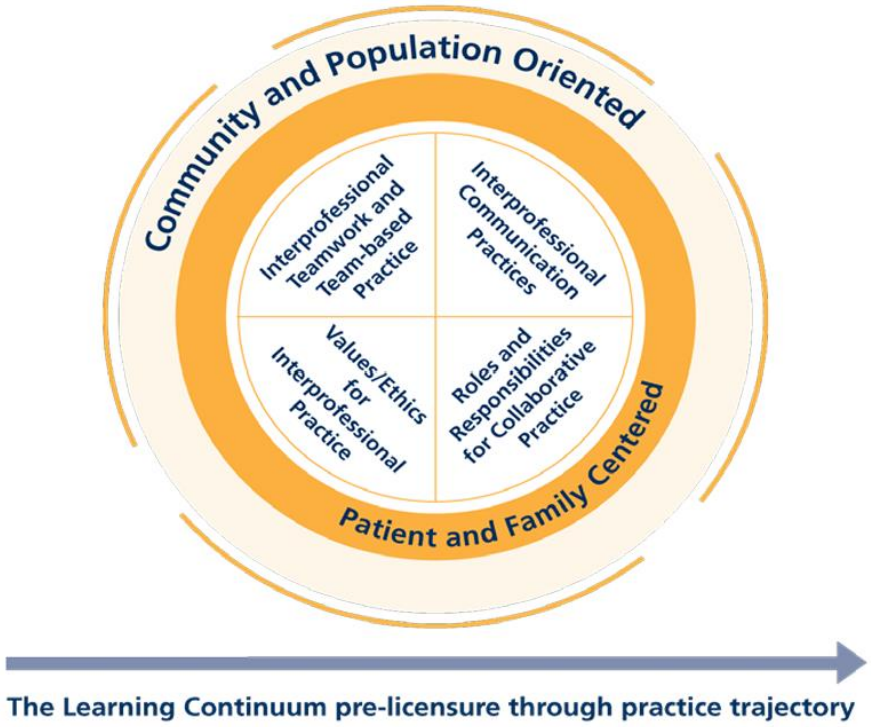
IPE can take various forms, including interactive classroom activities, simulated patient scenarios, case-based discussions, interprofessional rounds, and clinical placements in interdisciplinary settings. It requires coordination among educational institutions, curriculum development, and faculty training to ensure effective implementation. Ultimately, IPE aims to prepare future healthcare professionals to work collaboratively as part of a team, providing patient-centered care in a complex and evolving healthcare system.

Interprofessional Competencies

To address the research-to-practice gap between IPE and ICP, the Interprofessional Education Collaborative (IPEC, 2016) has defined a set of interprofessional collaborative competencies that guide the education and training of healthcare professionals. These competencies are designed to help students and practicing professionals develop the skills and attitudes necessary for effective teamwork and communication in healthcare settings (IPEC, 2016). These core competencies are organized into four domains: values and ethics for interprofessional practice, roles and responsibilities, interprofessional communication, and teams and teamwork (IPEC, 2016). See Figure 3 below for a model of the IPEC core competencies domains.

Figure 3

Interprofessional Collaboration Competency Domains



The values and ethics for the interprofessional practice domain emphasize the importance of respecting the unique contributions of each profession and the ethical responsibilities that come with collaborative practice (IPEC, 2016). The roles and responsibilities domain outlines various healthcare professions roles and responsibilities within a collaborative team and emphasizes the importance of clarity and understanding of each professional's scope of practice (IPEC, 2016). The interprofessional communication domain highlights the skills needed to communicate clearly and efficiently with team members and patients. Lastly, the teams and teamwork domain focus on building effective interprofessional teams (IPEC, 2016). This domain covers skills like shared decision-making, conflict resolution, and understanding the dynamics of

working in diverse teams (IPEC, 2016). Each of the four core competencies includes a set of sub-competencies: ten sub-competencies for values and ethics, nine sub-competencies for roles and responsibilities, eleven sub-competencies for interprofessional communication, and twelve sub-competencies for teams and teamwork, making a total of 42 sub-competencies.

ASHA is one of twenty organizations that have adopted the IPEC competencies to strengthen the connections between IPE and ICP. While these definitions are rooted in a medical model, Ludwig and Kerins (2019) have applied these competencies to an education model, consistent with ASHA's expansion of the IPE and ICP framework (ASHA, 2017; Pfeiffer et al., 2022). As demonstrated by Ludwig and Kerins, examples of interprofessional competencies can be applied to the education setting to measure outcomes related to IPE and ICP implementation in schools.

Interprofessional Practice in Schools

ICP does not occur at the ground level in the schools. This problem is carried over due to a lack of ICP opportunities at the pre-professional level (Pfeiffer et al., 2018). Undergraduate and graduate students in general education and special education teacher programs, speech-language pathology programs, and many other disciplines do not provide interprofessional learning and practice opportunities. A literature review by Dobbs-Oates and Wachter Morris found a positive correlation between professional development and interprofessional collaboration in school-based settings. These authors presented a literature review and a case study describing an interprofessional education practicum for teachers and school counselors. These authors concluded that IPE at the pre-professional level improves collaborative practices (Dobbs-Oates & Wachter Morris,

2016). While this research was conducted at the preprofessional stage, many IPE components can be applied using job-embedded professional development for diverse education professionals working in the school setting.

Pfeiffer et al. (2019) surveyed 474 school based SLPs and found that only 45% had prior experience and training with education professionals from other disciplines. A similar survey conducted by ASHA in 2021 found that almost 60% of the 297 professionals had not received pre-professional education or training opportunities in ICP. Additionally, this survey solidified the correlations between previous ICP training and future engagement of ICP in the schools. The CLASS Therapy Model and ICoP will provide practicing professionals with IPE opportunities. The researcher hopes that SLPs and teachers will identify shared benefits to building professional knowledge and engaging in collaborative practices across disciplines.

The results of these articles suggest that professional development programs effectively improve interprofessional collaborative practice when working with students in the education setting. To improve outcomes for students with language and literacy delays and disorders, it is recommended that SLPs and teachers be provided with continued professional development in this area. A study by Spear-Swerling et al. (2005) found that experienced teachers with greater self-efficacy outperformed novice teachers on language and literacy knowledge tasks.

As per the results of the above studies, paired with real-world practice, professional development is correlated with an increased understanding of interprofessional team members' roles, improved communication skills, and improved perceptions of interprofessional collaboration. Continued research is recommended to

assess the academic outcomes of preschool to eighth-grade level students with language and literacy IEP goals, following the implementation of a collaborative service delivery model by SLPs and teachers.

Job-Embedded Professional Development

Conventional professional development workshops have limited influence on changing teaching practices and student performance. Consequently, job-embedded professional development (JEPD) is put forward as a more effective approach (Cavazos et al., 2018). JEPD in the realm of education signifies a learning method integrated into a teacher's daily work and responsibilities. It is designed to enhance teaching skills, refine instructional methods, and support continuous professional growth while teachers are actively involved in their classrooms (Cavazos et al., 2018). Various strategies for JEPD include collaborative learning communities, lesson study, coaching and mentoring, action research, peer observation and feedback, professional learning networks, job-embedded courses or workshops, and reflective practice (Croft et al., 2010). The primary advantage of JEPD is that it assists teachers within their actual teaching environment, rendering the learning experience more meaningful and applicable (Croft et al., 2010). By linking professional growth to daily practice, educators can promptly apply new knowledge and techniques, resulting in enhanced student outcomes (Croft et al., 2010).

Furthermore, in addition to professional development integrated into daily teaching, researchers such as Darling-Hammond (2016), Yoon (2007), and Zepeda (2014) argue that meaningful JEPD should be continuous and enduring over time. While there isn't enough data to determine specific recommended durations or frequencies of professional development for particular school teams or objectives, research suggests that

substantial learning doesn't occur through brief, one-time workshops or training sessions (Croft et al., 2010).

Research in the field of JEPD has highlighted numerous advantages, such as improved lesson planning, elevated quality of teacher-child interactions, increased emotional support from colleagues, and a stronger commitment to participating in a learning community (Pacchiano et al., 2016). Teachers have reported feeling more encouraged and supported in their efforts to excel and make improvements in their teaching practices (Pacchiano et al., 2016). A study conducted by Allen et al. (2011) involving 78 secondary school teachers and 2,237 secondary students in 12 Virginia schools found that students whose teachers took part in a one-hour-a-week online collaboration program during the school year showed improvements in student achievement equivalent to .22 standard deviations when compared to students whose teachers did not participate. Yoon et al. (2007) conducted a review of the literature and identified nine studies of professional development (PD) using experimental or quasi-experimental designs. These studies indicated that effective PD models provided an average of 49 hours of development annually, resulting in an average increase in student achievement of 21 percentile points (Yoon, 2007). Out of the 35 studies examined by Darling-Hammond et al., 31 explicitly described PD that was maintained over time through recurring workshops, coaching sessions, or engagement with online platforms (2009).

Communities of Practice

Lave and Wenger's concept of communities of practice is a theoretical framework that focuses on learning as a social process that occurs within communities (Lave &

Wenger, 1991). Etienne Wenger and Jean Lave developed this concept in the 1990s to understand how individuals engage in learning through their participation in social groups. According to Lave and Wenger, a community of practice is a group of people who share a common interest or domain of knowledge and engage in regular interactions to learn from each other (Lave & Wenger, 1991). These communities are characterized by three key elements: domain, community, and practice.

The community of practice has a shared domain of interest or expertise. This can be a particular professional field, a hobby, or any area where members have a common focus (Lave & Wenger, 1991). Members of the community interact and engage in joint activities, discussions, and collaborations (Lave & Wenger, 1991). They develop relationships and build a sense of belonging, sharing their experiences, knowledge, and resources (Lave & Wenger, 1991). The community of practice develops a shared repertoire of resources, which includes tools, artifacts, vocabulary, and ways of doing things (Lave & Wenger, 1991). Members engage in activities and develop their expertise through participation and ongoing interactions (Lave & Wenger, 1991).

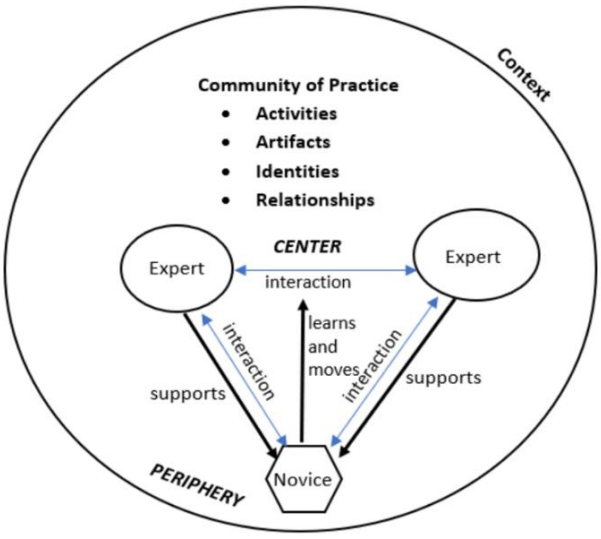
Communities of practice play a crucial role in knowledge sharing, professional development, and the cultivation of expertise (Lave & Wenger, 1991). They provide a supportive environment for individuals to learn from each other, solve problems collectively, and develop a shared understanding of their domain (Lave & Wenger, 1991). Overall, Lave and Wenger's communities of practice offer a valuable perspective on how learning occurs in social contexts, emphasizing the role of participation, collaboration, and the construction of shared knowledge within communities (Lave & Wenger, 1991).

Situated Learning Theory

Situated Learning Theory (SLT), presented by Lave and Wenger (1991), describes a Community of Practice (CoP) as a group of like-minded professionals that share common problems or a dedicated desire to develop their understanding and expertise through ongoing shared experiences (Lave & Wenger, 1991; Wenger et al., 2010). These experiences are often developed to address a shared goal or issue in their daily practice (Lave & Wenger, 1991; Wenger et al., 2010). The school system lends itself well to the CoP framework based on the practice of shared knowledge among professionals within a discipline. One example is a veteran teacher sharing their knowledge of classroom management tools with newly graduated teachers. Likewise, these novice teachers have a wealth of experience with new concepts like Evidence-Based Practice (EBP) and Universal Design for Learning (UDL) that can be shared with skilled professionals. A model of SLT is provided in Figure 4 below.

Figure 4

Model of Situated Learning



A community of practice approach is an ideal framework for professional development in the school setting. One strength of many school districts, like the one involved in this project, is that training opportunities are already mapped out for the entire school year before it even begins. Typically, these training courses are for professional development opportunities and collaboration specific to each department discipline. For example, middle school special education teachers meet monthly to review upcoming curriculum maps and academic standards that are modified and scaffolded for students with IEPs. While many districts have that strength of time, none of that time is designed to allow professionals from different disciplines and departments within the district to engage in collaborative teaching practices.

Reflective Learning

Supported by the work of Donald Schön (1983), the concept of reflective practice discusses how practitioners, like SLPs and teachers, can enhance their learning and problem-solving abilities by reflecting on their experiences and engaging in a continuous process of learning from practice (Schön, 2016). In terms of the interprofessional collaboration needed for SLPs and teachers to provide classroom-based service delivery models, reflective practice requires diverse professionals working together to provide comprehensive and holistic support to students with language and literacy challenges. The primary goal of reflective practice involves SLPs and teachers engaging in reflective practices individually and collectively. This involves regularly reflecting on their shared interactions with each other and their students, the strategies they use, the outcomes they achieve, and any challenges they face (Schön, 2016). Secondly, through collaborative

reflection, SLPs and teachers can share their insights, observations, and experiences. This can lead to a deeper understanding of each other's roles, strengths, and areas for growth (Schön, 2016). In addition to identifying their strengths and needs, collaborative reflection can help SLPs, and teachers identify innovative solutions for students with complex needs. By discussing challenges openly, they can brainstorm ideas and experiment with new approaches to improve student outcomes (Schön, 2016).

In addition to prolonged learning, reflective practitioners constantly strive for continual improvement (Schön, 2016). By analyzing what works and what doesn't, SLPs and teachers can refine their practices and adjust their strategies to better meet the needs of students. Another component essential to reflective practice is the ability to communicate openly and honestly with others (Schön, 2016). SLPs and teachers can foster a culture of trust, making it easier to provide constructive feedback and share concerns. Reflective practitioners are committed to ongoing professional growth (Schön, 2016). Collaborating with colleagues from different disciplines allows SLPs and teachers to expand their knowledge and skills beyond their specific areas of expertise. Lastly, the primary goal of interprofessional collaboration is to benefit students (Schön, 2016). Reflective collaboration ensures that the focus remains on providing the best possible support and interventions for students with language and literacy needs. The concepts of reflective practice, as introduced by Schön, can greatly reinforce the collaboration between SLPs and teachers in classroom-based service delivery models. By engaging in reflective conversations, sharing insights, and working together to improve their practices, these professionals can create a more effective and comprehensive learning environment for students (Schön, 2016).

Logic Model

A logic model is a visual representation or diagram that outlines the logical connections between different components of a program, project, or intervention (Ogborne & Rush, 1991). It is a tool commonly used in program planning, evaluation, and communication to clarify the relationship between inputs, activities, outputs, outcomes, and impacts (Ogborne & Rush, 1991). Inputs are resources, such as funding, personnel, materials, and equipment, that are invested into the program or project (Ogborne & Rush, 1991). Activities are the specific actions, processes, or interventions that are carried out using the inputs and are designed to bring about certain changes (Ogborne & Rush, 1991). Outputs are the direct and immediate results of the activities and can include products, services, and events that are produced because of the activities (Ogborne & Rush, 1991). Outcomes are the changes or benefits that occur through the outputs, and can be short-term, intermediate, or long-term changes in knowledge, attitudes, behaviors, skills, or conditions (Ogborne & Rush, 1991). Impacts are the broader and longer-term effects that result from the outcomes and reflect the overall goals of the program or project and are often related to societal or systemic changes (Ogborne & Rush, 1991).

A logical model helps to clarify the theory of change behind a program or project by showing how inputs are transformed into activities, which in turn lead to specific outputs, outcomes, and ultimately impacts (Ogborne & Rush, 1991). It's a valuable tool for stakeholders, funders, and evaluators as it provides a clear visual representation of the program's logic, making it easier to understand, communicate, and evaluate the program's effectiveness (Ogborne & Rush, 1991). Logic models can be used for the

evaluation of CoPs to assess, understand, and promote their value (McKellar et al., 2014). Assessment frameworks of CoPs frequently include attention to the goals, context, structure, activities, outcomes, and level of impact; thus, logic models are an appropriate method for analyzing a CoP (McKellar et al., 2014).

Summary

In summary, collaborative teams composed of educators and therapists with varying educational backgrounds and professional practices may experience a wide range of personal limitations and systemic barriers that inhibit their ability to participate in interprofessional teams effectively. Despite well-thought-out innovations centered on building collaborative teams, stakeholders and facilitators must consider many other factors in developing and implementing interprofessional education experiences. For example, the districts' size and composition of individual schools, staffing, and student population, are just some of the crucial components to consider. These factors should be examined holistically to guide system change in the education setting. Knowing what potential barriers may impact the successful implementation of an innovation is key to designing successful professional development and cultivating collaborative school communities. The following chapter will describe the study's research design, the role of the researcher, ethical considerations, context and participants, the innovation, data instruments, and collection procedures, data analysis procedures, and threats to reliability and validity.

CHAPTER 3

METHODS

"The true definition of madness is repeating the same action, over and over, hoping for a different result."

-Albert Einstein

The purpose of this mixed-methods action research study was to explore how and to what extent SLPs and teachers build collective knowledge, self-efficacy, implementation, and maintenance of interprofessional collaborative practices and classroom-based service delivery models during participation in the researcher's innovation. Additionally, this study addressed participants' perceived successes and barriers following participation in the innovation. For this purpose, the researcher developed the innovation, coined the Collaborative Language and Speech Services (CLASS) Therapy Model framework to address the lack of job-embedded training and ongoing support provided to diverse professionals in the K-8 public school setting. The CLASS Therapy Model framework is a two-part innovation intended to introduce and support elementary and middle school SLPs and teachers with opportunities to learn about, from, and with each other, otherwise known as interprofessional education (IPE), to implement and sustain interprofessional collaborative practices and classroom-based service delivery models. The following research questions guided the entirety of this study:

RQ1: How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' collective knowledge and self-efficacy of interprofessional collaborative practices?

RQ2: How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' implementation and maintenance of interprofessional collaborative practices and classroom-based therapy services?

RQ3: What perceived successes and barriers do SLPs and teachers experience following participation in the CLASS Therapy Model framework?

The learners identified for this mixed-methods action research project were general education teachers, special education teachers, and SLPs working with students identified with language and literacy disabilities on an Individualized Education Plan (IEP) in the K-8 public school setting. Since the targeted population of learners were adults with diverse experiences and levels of knowledge, characteristics, and components of IPE, ICP competencies, JEPD, CoP, reflective learning, experiential learning, and logic models guided the scope and sequence of the activities, outputs, and desired outcomes developed for the CLASS Therapy Model framework.

Research Methodology

This study used mixed methods action research to investigate how and to what extent participation in the CLASS Therapy Model framework facilitated participants' knowledge, self-efficacy, implementation, and maintenance of interprofessional collaborative practices and classroom-based service delivery models in the K-8 public school setting. A mixed methods action research approach was chosen because the researcher wanted to gain a thorough understanding of participants' experiences and outcomes with the framework. This method enabled the researcher to collect and analyze

multiple sources of data from various stakeholders which provided an abundance of information on the participants' feelings and lived experiences throughout the study. The CLASS Therapy Model framework was initiated by engagement in a two-hour IPE workshop followed by participation in an eight-week ICoP.

To evaluate the effectiveness of the CLASS Therapy Model framework, quantitative and qualitative data were collected during an eight-week innovation. The quantitative data consisted of the IPEC Core Competency Survey given to participants before and after the eight-week ICoP. The qualitative data included participants' logbook entries, artifacts, recorded discussions of ICoP meetings, and post-innovation semi-structured interviews. Quantitative analysis was conducted using descriptive and inferential statistics, and logical analysis and triangulated with the findings from the thematic analysis of qualitative data. Triangulation is the use of multiple methods and different sources to explore or study a specific phenomenon (Creswell & Miller, 2000). Again, to establish a strong triangulation among the data sets, a combination of pre-post surveys, logbook entries, ICoP meeting discussions, and semi-structured interviews were used in this study.

Research Design

This mixed methods action research study utilized an explanatory sequential design approach that combined qualitative and quantitative research methods within a single study (Ivankova, 2015). This design allowed the researcher to gather both in-depth qualitative data to further explain the quantitative data findings, providing a more comprehensive understanding of the research topic. The explanatory aim of this study was to gain insight into the participants' perceived knowledge, self-efficacy,

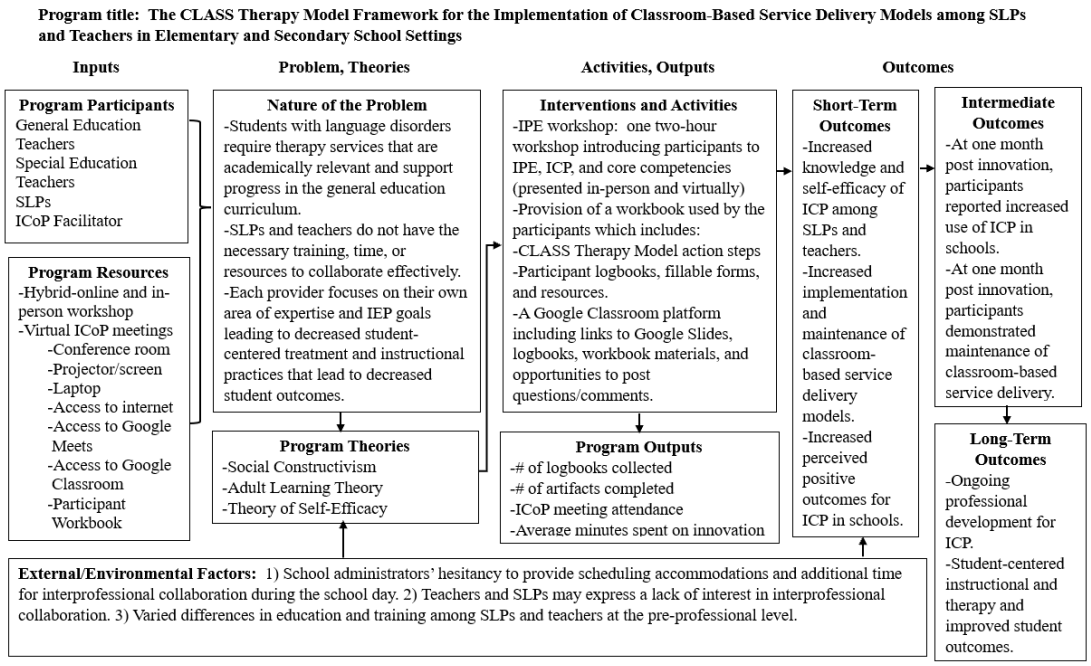
implementation, and maintenance of interprofessional collaborative practices and classroom-based therapy services following participation in the CLASS Therapy Model framework. The sequential nature of the design meant that quantitative data was collected first, followed by qualitative data (Ivankova, 2015). The two strands of data were integrated throughout the research process. This integration of data allowed the researcher to enhance the interpretation of the quantitative results by connecting them to the qualitative findings.

CLASS Therapy Model Framework Logic Model

To determine the relationships between the problem, the innovation, and its potential benefits, a logic model (LM) was created to represent the resources, activities, outputs, and outcomes of the CLASS Therapy Model framework (Brousselle & Champagne, 2011). General concepts about IPE, JEPD, CoPs, reflective learning, and experiential learning mentioned previously guided the creation of the design and educational aims of the CLASS Therapy Model LM. The researcher's expertise and more than fifteen years of on-the-job experience as a school based SLP were another source of knowledge that informed the innovations' activities and outputs. The participants' engagement in the ICoP workbook and Google Classroom activities provided the outputs and outcomes for the framework and sources of qualitative and quantitative data collected throughout the study. Figure 5 below describes the logic model of the CLASS Therapy Model framework and details its inputs, activities, outputs, and outcomes.

Figure 5

Logic Model of the CLASS Therapy Model Framework



Program Inputs

Setting. Cycle 3 of this study occurred during the Spring semester of the 2022-2023 school year. The setting was a mid-size, urban public school district in the southwestern part of Arizona, where the researcher served as Chairperson for the Speech-Language Department. The district contained 23 schools consisting of 14 elementary schools for grades kindergarten through five, a special developmental needs preschool, four middle schools for grades six through eight, a K-8 school, a K-8 traditional school, an online academy for grades first through eight, and a Pk-5 Montessori elementary school. The student population consisted of diverse cultural, ethnic, and socio-economic groups with more than 70% of students qualified for free or reduced lunch. There were

approximately 11,000 students enrolled and approximately 690 general and special education teachers employed in the district. There were 18 full-time and eight part-time SLPs employed in the district.

SLPs and teachers from three schools participated in the study: a preschool-grade 5 elementary school (School 1), a kindergarten-grade 8 elementary school (School 2), and a grade 6-grade 8 middle school (School 3). Table 3 displays the student demographics for all three schools during the 2021-2022 school year; the most current data available at the time of this study.

Table 3

Student Demographics of the Setting

Demographics	School 1	School 2	School 3
N	495	566	1016
Hispanic	60.81%	58.83%	49.7%
African American	14.14%	11.66%	13.68%
White	9.9%	12.54%	22.64%
Native American	8.08%	11.66%	5.12%
Asian	2.83%	1.94%	1.87%
Pacific Islander	N/A	N/A	1.08%
Multiple Races	4.04%	3%	5.91%
Redacted	0.20%	0.35%	N/A

Source: Arizona Department of Education. (n.d.). *Arizona school report cards.* Arizona Department of Education. Retrieved May 2, 2023, from https://azreportcards.azed.gov/schools.

Student enrollment was approximately 2,077 for all three schools combined, and approximately 11% of those students received resource and speech-language services on their IEP. All three schools were classified as Title 1, which means the schools received

additional federal funding to provide supplementary programs for low-achieving students in high-poverty environments. Each of the three schools included in the study provided additional support that all students could benefit from, such as after-school tutoring, lower student-to-teacher ratios, and access to free summer school programs.

Program Participants

A convenience sample of SLPs and teachers was used to obtain willing participants who matched the target population and demonstrated an interest in implementing collaborative, classroom-based therapy services and instruction. Three groups of participants were recruited for this study: speech-language pathologists (SLPs), special education teachers (SETs), and general education teachers (GETs).

SLPs. Three SLPs volunteered to participate in the study. These SLPs were employed in the district as full-time therapists.

GETs and SETs. Four general education teachers and five special education teachers were recruited by the researcher and the SLP employed at their school site. Participants at School 1 included one 4th-grade general education teacher and one 3rd-5th-grade special education teacher. Participants at School 2 included one 2nd-grade general education teacher and one 6th-8th-grade self-contained special education teacher. Participants at School 3 included two 6th-8th grade gifted ELA teachers and three 6th-8th grade ELA special education teachers. There were a total of nine SLP and teacher pairs in the study, the pairings consisted of School 1 (SLP 1/SET 1 and SLP 1/GET 1), School 2 (SLP 2/SET 2 and SLP 2/GET 2), and School 3 (SLP 3/SET 3, SLP 3/SET 4, SLP 3/SET 5, SLP 3/GET 3, and SLP 3/GET 4).

The study included 12 total participants employed in the school district during the 2022-2023 school year. Participants were recruited in January 2023 at the beginning of the Spring semester. The researcher began recruitment efforts by attending interested SLP participants' staff meetings and sharing an overview of the innovation and purpose of the action research study. The researcher then distributed recruitment letters (see Appendix H) and answered any potential candidates' questions about the participation requirements. In early February, once institutional review board (IRB) approval was received from Arizona State University, a follow-up email was sent to all participants via DocuSign to collect formal consent and signatures. All 12 recruited participants volunteered and engaged in the action research study cycle from start to finish and completed all data collection requirements. Table 4 below provides demographic information on all participants involved in the study.

Table 4

Participant Information

Participant	Age Span	Grade-levels	Years of experience	Years in district	Highest degree	Gender	Race/ Ethnicity
SLP 1	40-49	Pk-5	11-15	6-10	Master's	Female	White/NH
SLP 2	20-29	K-8	1-5	1-5	Master's	Female	White/NH
SLP 3	40-49	6-8	11-15	1-5	Master's	Female	White/NH
SET 1	50-59	3-5	16-20	1-5	Master's	Female	White/NH

Participant	Age Span	Grade-levels	Years of experience	Years in district	Highest degree	Gender	Race/ Ethnicity
SET 2	20-29	6-8	1-5	1-5	Bachelor's	Female	White/NH
SET 3	20-29	6-8	1-5	1-5	Master's	Female	White/NH
SET 4	20-29	6-8	1-5	1-5	Master's	Female	White/NH
SET 5	30-39	6-8	11-15	1-5	Bachelor's	Female	Black/NH
GET 1	50-59	3-5	21-25	1-5	Bachelor's	Female	White/NH
GET 2	60-69	K-2	16-20	16-20	Master's	Female	Asian/NH
GET 3	40-49	6-8	11-15	11-15	Bachelor's	Female	White/NH
GET 4	50-59	6-8	16-20	11-15	Bachelor's	Female	White/NH

Note. (N = 12) To preserve anonymity, SLPs and teachers were not asked to identify their school assignments on the survey. NH=Not Hispanic.

Role of the Researcher

As a full-time SLP and Chairperson for the Speech-Language Department in the district, the researcher's role in the study was as a leader, facilitator, participant, and researcher. As the leader and facilitator for the IPE workshop and CLASS Therapy Model ICoP meetings, the initial tasks included recruiting participants, preparing for the IPE workshop, presenting, and facilitating the IPE workshop, and facilitating the bi-weekly CLASS Therapy Model ICoP meetings. As a participant, the researcher attended the bi-weekly ICoP meetings and participated in the group discussions. The researcher participated in the meeting dialogue by asking questions, sharing experiences about the

classroom-based service delivery models, and proposing ideas and solutions when elicited by other participants. The role of researcher included the development of the CLASS Therapy Model framework, participant workbook, action steps, creation and monitoring of the Google Classroom platform and its resources. Lastly, the researcher collected and analyzed the study data.

Ethical Considerations

Following approval through the IRB process, this researcher obtained informed consent by providing all participants with the purpose and intentions of the study including how the results would be used. All participation was voluntary, and participants had the right to refuse to participate or remove themselves from the study at any time without repercussions. Confidentiality was maintained and pseudonyms were used to guarantee anonymity.

Program Resources

The IPE workshop was provided in a hybrid format, so participants could attend in person or virtually. Resources included a conference room or classroom large enough to accommodate the number of in-person participants. The room was equipped with chairs, tables, a projector and screen, access to wireless internet, and access to the Google Classroom platform. The virtual workshop took place in the facilitator and participants' homes or workplaces and required access to the internet, a laptop or tablet, and access to Google Meets platform.

Interventions and activities. The researcher designed and facilitated the CLASS Therapy Model framework, including the IPE workshop and action steps that were implemented during the eight-week virtual interprofessional community of practice (ICoP) in the district. The IPE workshop and ICoP guided participants through knowledge building and self-efficacy of ICP competencies that were mapped to the CLASS Therapy Model action steps necessary for implementing collaborative, classroom-based service delivery models. The researcher used components of collaborative learning and reflective feedback to support participants' changes over time. Through guided implementation, reflection, and support of various classroom-based service delivery models, the goal of the interprofessional community was to establish and sustain ongoing and successful interprofessional collaborative practices and classroom-based service delivery models among SLPs and teachers at their school sites.

IPE workshop. The study commenced on Friday, February 24, 2023, with a two-hour IPE workshop. To accommodate all participants, the IPE workshop was provided in a hybrid format, in-person at the district office and virtually via the Google Meets platform. Participants included the three SLPs, five special education teachers, and four general education teachers. The IPE workshop began with participant introductions and a review of the workshop agenda and objectives. Participants then completed the pre-innovation IPEC Core Competency Survey provided in a paper format or Google form document for online participants (see Appendix B). Once the surveys were completed and collected, the researcher acting as the facilitator, presented a Google Slide presentation that provided an overview of ICP, IPEC core competencies, and instructions on how to initiate the CLASS Therapy Model framework. Following the presentation,

participants collectively discussed and reviewed the course content and resources available in the Google Classroom platform and CLASS Therapy Model Participant Workbook. A link to the Google Classroom platform was embedded into the CLASS Therapy Model workbook along with links to other resources and instructional Google Slides for each action step (See Appendix A). Additionally, participants could post questions, submit artifacts, and access additional instructional materials on the Google Classroom platform.

CLASS Therapy Model Action Steps and Interprofessional Community of Practice

Five action steps were created to guide SLPs and teachers through the initiation and implementation of interprofessional collaborative practices and classroom-based service delivery models at their school sites. The action steps were aligned to the four IPEC (2016) Core Competencies of values and ethics, roles and responsibilities, interprofessional communication, and teams and teamwork. Each of the four core competencies included eight to 11 sub-competencies. Due to time limitations within the study, the researcher identified one core competency and one sub-competency to focus on during each week of the innovation. See Table 5 below for a list of dates, resource links, and ICP competencies aligned to each week of the study. See Appendix C for a list of meeting dates, types, and locations.

Table 5

CLASS Therapy Model Action Step Dates, Resources, and ICP Competencies

ICoP Action Steps and Dates	Action Step Resources and Artifacts	IPEC Core Competencies and Sub Competencies
Action Step 1: Building Collaborative Relationships Week of 2/27-3/3	Building Collaborative Relationships Google Slides Collaborative Brainstorming Notes Action Step 1 Logbook Entry	**Values and Ethics** • Work in cooperation with those who receive care, those who provide care, and others who contribute to or support the delivery of prevention and educational services.
Action Step 2: Gathering Necessary Information Week of 3/6-3/10 ICoP Meeting 1: 3/10, 2:00-3:00 PM	Gathering Necessary Information Google Slides Classroom Observation and Teacher Chat Form Action Step 2 Logbook Entry	**Values and Ethics** • Develop a trusting relationship with students, families, and other team members.
Action Step 3: Creating the Plan Week of 3/20-3/24	Creating the Plan Google Slides Pre-Lesson Curriculum Formative Assessment Template Action Step 3 Logbook Entry	**Roles and Responsibilities** • Engage diverse education professionals who complement one's own professional expertise, as well as associated resources, to develop strategies to meet specific student needs.

ICoP Action Steps and Dates	Action Step Resources and Artifacts	IPEC Core Competencies and Sub Competencies
Action Step 4: Implementing the Plan Week of 3/27-3/31 ICoP Meeting 2: 3/31, 2:00-3:00 PM	Collaborative Service Delivery Google Slides Collaborative Lesson Plan Template Action Step 4 Logbook Entry	**Interprofessional Communication** • Choose effective communication tools and techniques, including information systems and communication technologies, to facilitate discussions and interactions that enhance team function.
Action Step 5: Evaluating the Plan Week of 4/3-4/7	Collaborative Progress Monitoring Google Slides Post-Lesson Curriculum Formative Assessment Template Action Step 5 Logbook Entry	**Teams and Teamwork** • Integrate the knowledge and experience of other professions appropriate to the specific instructional situation to inform educational decisions while respecting student, family, and community values and priorities/ preferences for education.
Collaborative Lesson 2: Maintaining the Collaboration Week of 4/10-4/14 ICoP Meeting 3: 4/14, 2:00-3:00 PM	Revised Pre-Lesson Curriculum Formative Assessment Template Collaborative Lesson 2 Logbook Entry	**Roles and Responsibilities** • Use the unique and complementary abilities of all team members to optimize student learning.
Collaborative Lesson 3: Maintaining the Collaboration Week of 4/17-4/21	Revised Lesson Plan Template Collaborative Lesson 3 Logbook Entry	**Interprofessional Communication** • Give timely, sensitive, instructive feedback to others about their performance on the team, responding respectfully as a team member to feedback from others.

ICoP Action Steps and Dates	Action Step Resources and Artifacts	IPEC Core Competencies and Sub Competencies
Collaborative Lesson 4: Maintaining the Collaboration Week of 4/24-4/28 ICoP Meeting 4: 4/28, 2:00-3:00 PM	Revised Post-Lesson Curriculum-Based Assessment Example Collaborative Lesson 4 Logbook Entry	**Teams and Teamwork** • Share accountability with other professions, students, and communities for outcomes relevant to educational success.

To accommodate SLPs' and teachers' busy schedules, the groups met weekly at their school sites in their SLP and teacher pairs for approximately 30 to 60 minutes. All participants met virtually every other week for approximately 60 minutes to participate in the ICoP meetings. The researcher created and utilized an ICoP Facilitator Checklist and meeting norms to guide participants' interactions during the four ICoP meetings (see Appendix D). Facilitated discussions have been identified in the literature as a method to scaffold participant learning during IPE interventions (Pfeiffer et al., 2018; Wilson et al., 2016). Since all participants identified varying experiences with collaborative practice and classroom-based service delivery models, the biweekly ICoP meetings provided SLPs and teachers with a shared space to reflect on and share their knowledge gained, share their experienced successes and challenges, and propose solutions to problems that occurred throughout each week. During the CLASS Therapy Model Action Steps, SLP and teacher pairs were guided through the initiation, creation, and implementation of collaborative language and literacy lesson plans using one of the recommended classroom-based service delivery models like team teaching or station teaching model to facilitate ICP. While SLP and teacher teams identified students at varying grade levels,

with differing language and literacy skills, and implementation of different co-teaching models, the process of the action steps were the same. The following section discusses each CLASS Therapy Model Action Step in further detail.

Action Step 1: Building collaborative relationships. During the first week of the innovation, participants began the Action Step 1 process by building collaborative relationships. The SLP and teacher pairs scheduled and conducted an initial planning meeting at their shared school sites. During this meeting, the participant pairs completed the brainstorming notes, accessed by a link in the workbook or Google Classroom platform. SLPs and teachers used this document to review and record information about the shared students on their caseloads/rosters and establish a schedule for future collaboration meetings. SLPs and teachers were given the choice to review the additional resources together or individually. By the end of the week, participants independently reflected and responded to the prompts in the Action Step 1 Logbook entry and submitted responses to their participant folder in the Google Classroom.

Action Step 2: Gathering necessary information. During the week of action step 2, SLP participants conducted a classroom observation to gather and record information about the classroom environment and student behaviors. Additionally, participants conducted their weekly collaboration meeting, where they collectively reviewed the classroom observation notes and completed the teacher chat form. Then, the SLP and teacher pairs identified areas of strengths and needs of students within the curriculum and determined possible underlying language issues that could be addressed in the collaborative lesson plan. During that process, the participant pairs determined the agreed-upon language and literacy targets based on student needs and desired outcomes

aligned to a common core state standard and IEP goal. After the desired targets and outcomes were established, the SLP and teacher pairs identified or developed and administered a pre-lesson curriculum-based assessment (i.e., teacher/SLP co-created curriculum-based assessment, existing district curriculum-based assessment, school or district progress monitoring assessments). By the end of the week, participants independently reflected and responded to the prompts in the Action Step 2 Logbook entry and uploaded them to their participant folders. At the end of week 2, all SLPs and teachers participated in the first one-hour virtual ICoP meeting. Participants discussed their experiences and knowledge gained during the first two weeks of the study, then addressed any questions or concerns they had with the group.

Action Step 3: Creating the plan. During the week of action step 3, the paired participants conducted their weekly collaboration meeting and developed their first collaborative lesson plan using an agreed upon classroom-based service delivery model (one-teach/one-assist, team teaching, station teaching, or parallel teaching). Paired participants used the collaborative lesson plan template to identify the target instructional goals, service delivery model, roles and responsibilities for each team member, strategies and instructional content, and curriculum used during the plan. By the end of the week, participants independently reflected and responded to the prompts in the Action Step 3 Logbook entry and uploaded responses to their participant folders.

Action Step 4: Implementing the plan. During the week of action step 4, paired participants implemented, and video recorded their first collaborative lesson with their identified student groups. By the end of the week, participants independently reflected

and responded to the prompts in the Action Step 4 Logbook entry and uploaded responses to their participant folders. At the end of week 4, all SLPs and teachers participated in the second, one-hour virtual ICoP meeting. Participants discussed their experiences and knowledge gained during the innovation so far. Then they addressed any questions or concerns that occurred following the implementation of their chosen classroom-based service delivery model.

Action Step 5: Evaluating the plan. During the week of action step 5, paired participants attended their weekly collaboration meeting, where they developed a post-lesson curriculum-based assessment that they administered at the end of the week. They also used the Appraisal of Team Collaboration Tool to review and reflect on the recording of their collaborative lesson plan. By the end of the week, participant pairs administered the post-lesson assessment, then independently reflected, responded, and uploaded their responses to the prompts in the Action Step 5 Logbook entry.

Week 6-8: Subsequent collaborative lessons. During weeks six, seven, and eight of the innovation, participant pairs met weekly to revise, reimplement, and reflect on their collaborative lesson plans. At the end of week 6, all SLPs and teachers participated in the third, one-hour virtual ICoP meeting. Participants discussed their experiences and knowledge gained during each week. Additionally, the group addressed any questions or concerns that occurred following the implementation of their revised collaborative lesson plan. During week 7 or 8 of the innovation, participant pairs recorded their third or fourth collaborative lesson for review. During their weekly collaborative meeting, they re-administered the Appraisal of Team Collaboration Tool to review and reflect on their final collaborative lesson plan. At the end of week 8, all SLPs

and teachers participated in the fourth, one-hour virtual ICoP meeting. Participants discussed their overall experiences, knowledge gained throughout the innovation, and plans for maintaining their interprofessional collaborative practices and classroom-based service delivery models moving forward.

Program Outputs and Outcomes

A quantitative data collection sheet was created by the researcher to track program activities and outputs and conduct a logic analysis of the ICOP, including the number of logbook entries, number of artifacts, meeting attendance, and duration of time spent for each participant during the study (see Appendix E). Short-term outcomes were measured at the completion of the eight-week ICoP. Short-term outcomes include increased knowledge and perceived self-efficacy of ICP among SLPs and teachers, increased implementation and maintenance of classroom-based service delivery models, and participants' perceived increases to student outcomes. Intermediate outcomes were measured at one-month post innovation. These outcomes included participants' increased use of ICP in schools, and demonstration of continued use of classroom-based service delivery models among current or new school professionals. Lastly, long-term outcomes included the ongoing professional development for ICP across all schools in the district and a focus on student-centered instructional and therapy approaches that lead to improved student outcomes.

Anticipated Barriers and Challenges

There were several expected obstacles that could have arisen during the introduction of this innovation. The initial challenge revolved around school administrators being hesitant to adjust schedules and allocate more time for interprofessional collaboration within the school day. To address this, we worked with administrators to incorporate collaboration time during non-instructional periods such as before and after students' regular hours, as well as during lunch/snack breaks. This ensured that speech-language pathologists (SLPs) could maintain their therapy sessions and not disrupt teachers' essential instructional time with students. Another potential issue could have been teachers and SLPs showing reluctance to engage in interprofessional collaboration. To overcome this, we emphasized the program's significance through a brief presentation at a school faculty meeting. Additionally, we disseminated information about the program's benefits and outcomes to school staff via email and the district newsletter. Finally, the diverse educational backgrounds and training levels of SLPs and teachers at the pre-professional stage could have posed a challenge to implementing this program. We addressed this obstacle by conducting needs-based assessments, providing structured support for new content, ongoing assistance and feedback, making resources available, and offering opportunities for reflection within the CLASS Therapy Model framework.

Instruments and Data Collection Procedures

Quantitative Data Instruments and Collection Procedures

Participants took a Likert-type self-efficacy survey as a pre-and post-measure. Additionally, the quantitative data collection sheet was used by the researcher to track

program activities and outputs and conduct a logic analysis of the ICOP, including the number of logbook entries, number of artifacts, meeting attendance, and duration of time spent for each participant during the study.

Pre/Post Survey. The IPEC Core Competency Survey was designed to assess competencies related to collaborative practice at the healthcare degree program level through individual participant self-assessment. Specifically, the tool measures participants' self-efficacy on items based on the 42 core competency statements developed by the Interprofessional Education Collaborative for allied healthcare professionals (IPEC, 2011). The survey tool measures four domains (to reflect the IPEC core competency domains), with each domain containing 9-12 specific competencies: Values and Ethics, Roles and Responsibilities, Interprofessional Collaboration, and Teams and Teamwork. Several studies have indicated measures of validity among professionals in the healthcare field; however, few studies exist for IPE interventions conducted in the pre-professional and professional education setting (Dow et al., 2014).

To measure education professionals' levels of self-efficacy within the IPEC core competency framework, the researcher adapted the survey for the education context. Some of the questions were reworded to better fit the education context, such as, replacing the medical terminology with verbiage used in the education setting. For example, statement 1 of the original survey states, “Place the interests of patients at the center of interprofessional health care delivery.” The revisions for the modified education survey statement 1 state, “Place the needs of students at the center of academic instruction and service delivery.” Each item of the modified survey used the same 5-point

Likert-type scale ranging from strongly disagree (1) to strongly agree (5). Likert-type scales are a common tool for exploring the attitudes, self-efficacy, and knowledge of participants. Results from this survey are intended to inform curriculum planning, track the effects of degree programs on interprofessional competency, and provide data that can be used within and between institutions to compare programmatic outcomes.

Reliability of Quantitative Results

The IPEC Core Competency Survey consisted of four constructs that were applicable to the practices of collaborative healthcare treatment for pre-professional students and aligned with the knowledge and skills required to implement ICP. The researchers original study included 481 students enrolled in clinical degree programs for the 2012 academic year on the health science campus at a major urban institution (Dow et al., 2014). Subsequent studies included samples from three additional institutions. According to the developers ' rigorous statistical testing methods, this instrument is considered a valid and reliable survey (Dow et al., 2014). The measure of internal consistency describes the extent to which the test questions assess the same construct, determining the amount of "error" within a particular instrument (Tavakol & Dennick, 2011). Using Cronbach's alpha to test for internal consistency, the survey's authors calculated Cronbach's alpha score of (a = .97), which indicates a high level of reliability in applied research, as it is above the minimum standard of .70 (Nunnaly, 1978). The reliability coefficients for each subscale listed above were: .98, .96, .96, and .98. These measurements, also listed in Table 6 below, indicate that the survey was reliable for this study.

Table 6

Survey Coefficient-Alpha Estimates of Internal Consistency Reliability

Construct	Number of Items in Construct	Within Factor Items	Cronbach's *a*
Values & Ethics	10	Items 1-10	.976
Roles & Responsibilities	9	Items 11-19	.962
Interprofessional Communication	11	Items 20-30	.966
Teams and Teamwork	12	Items 31-42	.976

Note. N = 481

The goal of the researcher was to examine the statistical relationships between the independent variable, the CLASS Therapy Model, with the dependent variable, the SLPs and Teachers' knowledge and self-efficacy. The researcher conducted a small-scale pilot test of the adapted survey on a convenience sample of eight participants during Cycle 1 of the innovation. These participants included an SLP/SET team and an SLP/GET team at each of the two middle schools included in the study. Any extraneous variables (Smith & Glass, 1987) were likely avoided because participants were not currently participating in any other collaborative professional development training or classes during the study period. For the current cycle of research, the pre-and post-survey were identical, apart from the added demographic questions on the presurvey. The survey was administered before and after the eight-week ICoP. See Appendix B for the survey.

Qualitative Data Instruments and Collection Procedures

Logbooks. Logbooks were designed to help ICoP members reflect on their contributions and the knowledge and competencies gained each week. Logbooks

contained questions about the time spent in each activity, engagement with their paired participant throughout each week, and their appreciation or criticism of the assigned activities. Filling out the logbooks was an individual activity, and the content of the logbooks was not shared among the participants. See Appendix F for an example of a Logbook Entry.

ICoP Meeting Recordings. Recordings were collected during each of the four ICoP meetings. During these meetings, participants discussed their experiences and knowledge gained during the process. The group also addressed any questions or concerns that occurred throughout the course of the eight-week innovation. Each meeting was recorded using Zoom. The meeting recordings were uploaded into Otter.ai to create transcripts for analysis.

Semi-Structured Interviews. Qualitative data was also collected through individual, semi-structured interviews conducted with all twelve participants. The interview data were used to clarify the survey and other artifacts collected throughout the study. Interviews allowed participants to provide feedback on the innovation and their experiences and perspectives on interprofessional collaboration with their SLP or teacher pairs. The researcher conducted interviews after the participants had engaged in the innovation for approximately eight weeks. Each interview was recorded using Zoom. The interview recordings were uploaded into Otter.ai to create transcripts. See Appendix G for the Post-Innovation Semi-Structured Interview.

Data Analysis Procedures

Quantitative Data Analysis Procedures

Descriptive statistics were used to summarize the quantitative data collected in the pre/post IPEC survey. Data was analyzed using the Statistical Package for Sciences (SPSS) software version 26. A paired sample *t-test* was used to describe statistical significance and effect size of participants' changes in knowledge and self-efficacy. In addition, the number of collected logbooks, the number of completed artifacts, participant attendance for ICoP meetings, and the number of minutes spent each week participating in the ICoP were summarized.

Qualitative Data Analysis Procedures

For the qualitative analysis, HyperRESEARCH for PC 4.5.3 was used to systematically conduct Braun and Clarke's (2006) six-phase guide to thematic analysis. During the first phase, the researcher was immersed in all aspects of the data by reading and rereading logbook entries, ICoP meeting transcripts, and interview transcripts throughout the eight-week innovation period. To closely examine participants' changes over time, the researcher grouped the data chronologically to examine participants' level of implementation and maintenance of interprofessional collaborative practices and classroom-based therapy services at each stage of the study.

Phase two began shortly after the innovation concluded and lasted about six weeks. The goal was to stay true to the lived realities and experiences of the participants. To do this, the researcher used a data-driven, inductive approach to identify key categories and relationships that occurred within the transcribed data. Once the initial coding phase was completed, there were a total of 64 initial codes.

Over the next week, during phase three, the researcher took the dataset with the 64 initial codes and began looking for patterns of meaning to revise and condense the code list. Before the second coding cycle began, the researcher completed code landscaping using the internet tool Wordle (Saldana, 2021, pg. 199). Code landscaping is a way of visually representing codes to search for initial patterns and categories that are displayed in a word cloud graphic (Saldana, 2021, pg. 199). The word cloud is displayed in Figure 6 below. This process was extremely helpful in moving from the initial code list to the condensed code list because it allowed the researcher to build connections between similar and distinctive codes.

Figure 6

Word Cloud of Initial Codes

During phase four, the researcher completed the second cycle of coding by examining the word cloud and identifying codes that occurred more frequently. The researcher then synthesized the most frequently occurring codes into patterns or

categories of codes. Those categories were organized into a set of condensed codes which were then used to develop emergent themes. Table 7 is a list of the condensed codes.

Table 7

Condensed Code List

Code	Meaning	Code	Meaning
LAS	Language skills/goals	SE	Student engagement
LIS	Literacy skills/goals	SB	Student behavior
AS	Academic standards	TSE	Teacher/SLP engagement
FG	Filling gaps	D	Differentiation
E	Equity	ADS	Administrative support
SS	Student success	LT	Limited time
RW	Reading and writing	PMC	Purposeful monitoring/coaching
LS	Listening and Speaking	F	Feedback
CSD	Co-teach/service models	OS	Ongoing support
CRR	Co-teach roles/responsibility	M	Maintenance
PT	Planning time	C	Collaboration
PM	Progress monitoring	JPD	Job-embedded development
CR	Collaborative relationships	C	Consistency

Phase five involved defining and naming themes. During this process, the researcher continually compared emerging themes to the research questions. As a result, the researcher identified four themes that led to the final overarching themes within the qualitative data. These themes included: (1) connecting academic standards and IEP goals through listening, speaking, reading, and writing, (2) having a structure for the

implementation of interprofessional collaborative practices and classroom-based therapy services, (3) having a place to discuss successes and barriers to maintaining interprofessional collaborative practices and classroom-based therapy services, and (4) collaborative sharing and reflection over time.

During phase six, the researcher took the four overarching themes and research questions and integrated them into insights, drew conclusions, and developed assertions. The overarching-themes were condensed into four final themes that consisted of: (1) language and literacy connections, (2) knowledge acquisition and sharing, (3) social interaction and collaboration, and (4) identity building and self-reflection. Once the final themes were established, I began writing the qualitative findings.

Triangulation

To gain a more comprehensive understanding of how participants' interprofessional collaboration knowledge and practices evolved during the study, the researcher combined qualitative and quantitative data through a process called triangulation. Both types of data were given equal importance and attention, as relying solely on quantitative data would not have sufficed to fully elucidate changes in participants' understanding and implementation practices related to ICP and service delivery models. Therefore, the researcher integrated multiple data sources and compared them to address the practical issue at hand, as suggested by Mertler (2019).

To enhance the transferability of findings, the researcher incorporated detailed descriptions in the semi-structured interviews, allowing readers to form a clear mental image of the context and results. Additionally, the researcher ensured the dependability and confirmability of the research through an auditing process. This process commenced

with member checking, wherein participants had the opportunity to review interview transcripts and collaborate on the interpretation of the data. Moreover, the researcher shared the findings with the dissertation chair to obtain further validation. Peer review discussions with colleagues were also conducted to examine the study process, findings, and potential interpretations.

Threats to Reliability and Validity

Reliability and validity are crucial concepts in research methodology that ensure the quality and accuracy of a study's results. To ensure internal reliability and validity, triangulation, member checks, and adequate engagement in data collection was conducted (Merriam & Tisdell, 2016). To promote internal validity, triangulation was achieved using multiple sources of data. Data were collected from different educational perspectives, SLPs, special education teachers, and general education teachers from different schools in the district. Follow-up interviews were conducted as needed for clarity and depth of responses. Member checks or respondent validation, in which transcripts and initial findings were shared with participants, was another strategy that was used along with follow-up interviews. This strategy confirmed that participants' experiences were captured accurately in the data, in turn ensuring the credibility of the findings. Finally, data continued to be collected until saturation was attained verifying the validity of the findings.

CHAPTER 4

RESULTS AND FINDINGS

The purpose of this study was to explore the effects of the CLASS Therapy Model framework to support and sustain the implementation of classroom-based therapy services and interprofessional practices among SLPs and teachers. Results from the quantitative and qualitative data collected during this action research study are presented in this chapter, as well as an explanation of how the data collection and analysis procedures addressed each research question. The research questions that guided this study are listed below:

RQ1: How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' collective knowledge and self-efficacy of interprofessional collaborative practices?

RQ2: How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' implementation and maintenance of interprofessional collaborative practices and classroom-based therapy services?

RQ3: What perceived successes and barriers do SLPs and teachers experience following participation in the CLASS Therapy Model framework?

Quantitative Analysis

A paired-sample *t*-test was completed at the .05 significance level to determine whether results were statistically significant between the pre-post mean scores for participants on each competency item and across each of the four core competency

domains. To dive deeper and closely examine the specific interprofessional skills that participants demonstrated the greatest change in, the researcher conducted measures of central tendency including pre-post mean scores, standard deviation, and mean difference of the sub-competency items within each of the four core competency domains. Lastly, a logic analysis was conducted to identify participants' level of implementation and maintenance in relation to the activities and outputs completed within the CLASS Therapy Model framework.

Quantitative Results

Inferential Statistics

The comparison between the same participants taking the same survey under two different conditions, using a paired sample *t*-test, allowed the researcher to analyze the extent to which there was a significant difference in collective knowledge and self-efficacy before and after the innovation. The null hypothesis (Ho) states that there would be no effect on participants' knowledge and self-efficacy due to the innovation. Results from the pre-test and post-test survey indicate that the CLASS Therapy Model framework marked improvement in knowledge and self-efficacy for the IPEC core competencies $t(11) = 41.2,\ p < .001$. Based on the given p-value ($p < .05$), the null is rejected, meaning the difference between the pre-test and post-test survey scores is statistically significant.

Cohen's *d* was calculated to determine the effect size measure for the paired *t*-test, given a small sample size ($n = 12$). This is determined by the pre-and post-test mean values and their standard deviations. Cohen's *d* score above zero indicates effectiveness to varying degrees. A Cohen's *d* of 0.2 is small, 0.5 is medium, and 0.8 is large (Salkind

& Frey, 2020). The mean of each item was factored within the calculation, and the effect size proved to be (d = .39). This number indicates a medium effect size that can be attributed to participants' involvement in the CLASS Therapy Model framework gains in knowledge and perceived self-efficacy for ICP competencies. Table 8 shows the *t*-test results according to pre- and post-innovation outcomes for all four competency domains.

Table 8

Competency Domains Paired Sample t-test and Cohen's d

Competency	Pre-Survey	Post-Survey	*df*	*t*	*p*	*d*
Values and Ethics	2.4 (.42)	4.4 (.36)	11	52.6	.001	.13
Roles and Responsibilities	2.0 (.37)	4.0 (.39)	11	21.9	.001	.32
Interprofessional Communication	1.9 (.44)	3.6 (.41)	11	72.6	.001	.85
Teams and Teamwork	1.9 (.57)	4.0 (.45)	11	34.4	.001	.21
Total	8.4 (1.6)	16.2 (1.7)	11	69.5	.001	.39

Note. N = 12. Standard deviations appear in parentheses below means. Effect size is based on Cohen's d=.20 is small, .50 is medium, and .80 is large.

Each of the four core competency domains demonstrated statistically significant differences from the pre-survey (M=8.4, SD=1.6) to post-survey (M=16.2, SD=1.7) scores $t(11) = 69.5$, p=.001) with an overall medium effect size. Participants scores for the values and ethics domain from the pre-survey (M=2.4, SD=.42) to the post-survey (M=4.4, SD=.36) significantly increased, $t(11) = 52.6$, p = <.001. This construct had a

small effect size for a within-subject design (d = .13). The roles and responsibilities domain were also statistically significant with $t(11) = 21.9$, $p = <.001$ with a medium effect size (d = .32). The domain of interprofessional communication $t(11) = 72.6$, $p < .001$, d = .85 was statistically significant and demonstrated the largest effect size. Lastly, the teams and teamwork domain was statistically significant $t(11) = 34.4$, $p = <.001$. This construct had a small effect size (d = .21).

Sub-Competency Analysis

To identify what successes and barriers SLPs and teachers experienced following participation in the eight-week innovation, participants' pre-post innovation survey responses were analyzed by generating measures of central tendency for individual sub-competency items within the four core competency domains. Following the eight-week innovation, participants felt most successful engaging in interprofessional practices related to values and ethics. The sub-competency that showed the greatest increase (+2.09) in mean difference was item 1, indicating that participants reported more success with placing students' needs at the center of academic instruction and service delivery. Two other sub-competencies that showed significant growth following the innovation were item 2 (+2.08) and item 8 (+2.08). Each of these sub-competencies related to maintaining student confidentiality and addressing ethical dilemmas while providing interprofessional student-centered instruction. The sub-competency with the lowest increase in mean difference was item 7 (+1.84), in which professionals reported continued barriers with demonstrating high standards of ethical conduct and quality of instruction during their own contributions to collaborative student instruction.

For the roles and responsibilities domain, item 19 showed the greatest increase (+2.16) in mean difference. This signifies that participants reported more success with using their unique and complementary abilities to optimize student instruction. The sub-competency with the lowest increase in mean difference was item 12 (+1.92), in which participants recognize their limitations in skills, knowledge, and abilities. All other sub-competency items in the roles and responsibilities domain indicated an average marked improvement of 2.00.

The interprofessional communication sub-competency that showed the greatest increase (+2.09) in mean difference was item 29. Showing that participants felt more successful recognizing how their position in the hierarchy of the school team supports communication, conflict resolution, and interprofessional working relationships. Two other sub-competencies that showed significant growth over the course of the innovation included item 20 (+2.08) and item 22 (+2.08). These sub-competencies were related to identifying tools and techniques that facilitate instruction and enhanced interactions during team functioning and avoiding discipline specific terminology when possible. There were two sub-competencies that demonstrated very low to no increase in the mean difference, they were item 23 (0.00) and item 24 (0.09). These sub-competencies were related to expressing one's knowledge and opinions to team members with clarity and respect and listening actively to encourage the ideas and opinions of other team members. All other sub-competency items in this domain indicated an average marked improvement of 2.00.

There were several teams and teamwork sub-competencies that demonstrated a significant difference from pre-post survey scores, including item 32 (+2.17), item 33

(+2.17), item 35 (+2.17), and item 42 (+2.17). These outcomes reveal participants' success with describing the roles and practices of an effective school team, engaging other professionals in shared problem-solving, applying leadership practices that support collaboration, and performing effectively on different teams in various settings. The sub-competencies with the lowest increase in mean difference were items 34 and 37 (+1.92), which relate to informing instructional decisions and sharing accountability with other professions, students, and parents. All other sub-competency items indicated an average marked improvement between 1.92-2.09 for the teams and teamwork domain.

Logic Analysis

To quantify the participants' level of implementation and maintenance of interprofessional collaborative practices and classroom-based service delivery models, a logic analysis was conducted at the conclusion of the ICoP to identify a mean total of weekly activities and outputs for all participants in the study. Activities and outputs included the number of logbooks collected, the number of artifacts completed, attendance at ICoP meetings, and average minutes participants spent on the innovation each week. Table 9 below shows the mean score of participants' engagement with each weekly topic.

Table 9

Weekly ICoP Participant Engagement

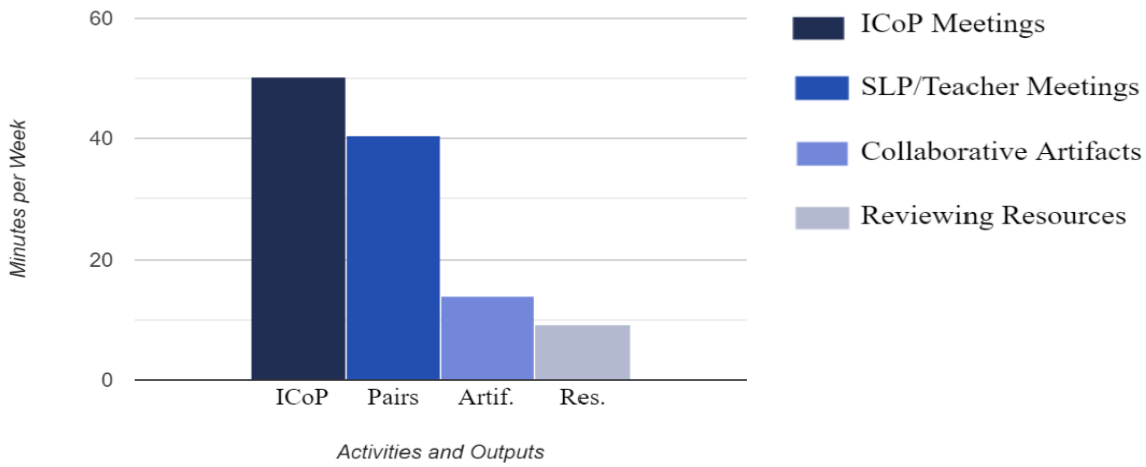
Week	Topic	# of collected Logbooks (/12)	# of completed Artifacts (/12)	# of participants at ICoP Meeting	Mean duration of time (minutes)
1	Building Collaborative Relationships	12	12	N/A	125
2	Gathering Necessary Information	12	12	12	136
3	Creating the Plan	12	12	N/A	120
4	Implementing the Plan	11	11	11	125
5	Evaluating the Plan	11	12	N/A	120
6	Maintaining the Collaboration	9	11	10	110
7	Maintaining the Collaboration	8	8	N/A	85
8	Maintaining the Collaboration	8	8	9	90
	Total	83	86	42	911

The researcher collected 83 total logbooks from the 12 participants over the eight-week innovation with a mean of 10.4 logbooks collected per week. The participants completed 86 total artifacts during the innovation, with a mean of 10.8 artifacts completed per week, indicating a high level of engagement among participants. On average there were 11 out of 12 participants in attendance at each of the four ICoP meetings. All 12 participants spent, on average, 911 minutes, or over 15 hours, on activities and outputs during the innovation, with a mean of 114 minutes, or 1.9 hours, of time invested per week, per participant. Participants' level of engagement remained constant throughout the first six weeks of the innovation, with a slight decrease in engagement during the last two weeks.

The researcher then examined the quantitative data reported in the 83 collected logbooks to determine the mean duration of time spent on each weekly activity and output for each participant. The average time in minutes is listed in Table 10 below.

Table 10

Mean Time (Minutes) Spent on Weekly Activities and Outputs



As mentioned previously, participants spent an average of 114 minutes per week on the ICoP activities and outputs. All participants engaged in each CLASS Therapy Model ICoP aspect throughout the innovation. On average, participants spent the most time engaging in the bi-weekly ICoP meetings (*M*=53.25). Conversely, they spent the least time reviewing the resources in the Google Classroom platform (*M*=9.16). This means participants invested more time in activities and outputs that involved engagement and discussion as a whole group as opposed to those that could be completed independently.

Finally, the researcher examined the implementation of the six classroom-based service delivery models discussed during the CLASS Therapy Model ICoP. There were a

total of nine SLP and teacher pairs in the study, the pairings consisted of School 1 (SLP 1/SET 1 and SLP 1/GET 1), School 2 (SLP 2/SET 2 and SLP 2/GET 2), and School 3 (SLP 3/SET 3, SLP 3/SET 4, SLP 3/SET 5, SLP 3/GET 3, and SLP 3/GET 4). Participant groups submitted 36 total collaborative lessons plans to the Google Classroom Platform for review. Table 11 below shows a breakdown of the classroom-based service delivery models from least to most implemented during the four weeks of collaborative lesson planning and implementation.

Table 11

Classroom-Based Service Delivery Models Implemented

Co-Teaching Model	# of Lessons Completed
One Teach/One Observe	4
One Teach/One Assist	4
Alternative Teaching	4
Station Teaching	8
Parallel Teaching	8
Team Teaching	8

Note. N = 9 SLP/Teacher Pairs

Of the six classroom-based service delivery models reviewed, station teaching, parallel teaching, and team teaching were implemented in 66% of the total lesson plans submitted. The models that were implemented most often among SLP and teacher pairs during the four collaborative lessons at the middle school level included station teaching,

one teach/one observe, and parallel teaching. The models that were implemented the most often among SLP and teacher pairs during the four collaborative lessons at the elementary school level included one teach/one assist, alternative teaching, and parallel teaching. The models that were utilized most among SLP and special education teachers included parallel teaching and team teaching. The models implemented the most among SLPs and general education teachers included one teach/one assist, alternative teaching, and parallel teaching.

Qualitative Analysis

Data for the qualitative analysis were collected from all 12 participants and consisted of content in the logbooks, ICoP meeting discussion transcripts, and individual semi-structured interview transcripts. Table 12 below lists the word count for each of the qualitative sources that were transcribed and analyzed in this study.

Table 12

Word Count of Qualitative Sources

Data Source	Word Count
83 Logbook Entries	2,351
4 Recorded ICoP Meetings	25,619
12 Semi-structured Interviews	13,690
Total Word Count	41,660

Qualitative Results

Thematic analysis was conducted to determine if participants perceived an overall increase in collective knowledge and self-efficacy, as well as implementation and maintenance of interprofessional collaborative practices and classroom-based therapy services following participation in the CLASS Therapy Model ICoP. It was also used to

identify and describe participants' perceived successes and barriers following the innovation. In the analysis of the qualitative data sources, 64 initial codes were identified. Codes were further grouped into four major themes. The themes for the qualitative findings included: (1) connecting language and literacy skills, (2) knowledge acquisition and sharing, (3) social interaction and collaboration, and (4) identity building and self-reflection. Table 13 below provides a breakdown of the themes, sub-themes, and assertions associated with each theme.

Table 13

Themes, Sub-Themes, and Assertions

Themes and Sub-Themes	Assertions
Connecting Language and Literacy Skills 1.Targeted language skills overlap with reading and writing. 2. SLP language intervention can augment the literacy curriculum in the classroom. 3. Therapy goals can be connected to the common core state standards for ELA. 4. The connection of language and literacy can lead to student success and generalization of skills.	Connecting language and literacy skills during the CLASS Therapy Model framework activities and outputs facilitates SLPs' and teachers' perceived knowledge and self-efficacy of interprofessional collaborative practices and classroom-based therapy services.

Themes and Sub-Themes	Assertions
Knowledge Acquisition and Sharing 1. Identifying the knowledge needed by SLPs and teachers before and during collaboration. 2. Overcoming systemic barriers with administrator buy-in. 3. The needs of the student and the curriculum guide the co-teaching approach. 4. The SLPs and teachers also guide the co-teaching approach that's implemented.	The CLASS Therapy Model framework provides a structure for the implementation of classroom-based therapy services and interprofessional practices that leads to increased knowledge acquisition and sharing among SLPs and teachers.
Social Interaction and Collaboration 1. Collaborative time for lesson planning is essential. 2. Collaborative partnerships lead to increased professional growth. 3. Collaborative lesson planning and strategy sharing increases. 4. The ICoP facilitator is essential for ongoing feedback and support.	The CLASS Therapy Model framework provides a shared space to discuss the successes and barriers of classroom-based therapy services and interprofessional practices that lead to increased social interaction and collaboration among SLPs and teachers.

Themes and Sub-Themes	Assertions
Identity Building and Self-reflection 1. Identify roles and responsibilities early in the collaborative partnership is key. 2. Positive outcomes are tied to ongoing support and feedback. 3. Ongoing self-reflection helps the collaborative team identify strengths and needs. 4. Ongoing collaboration can lead to shared resources and training tools.	Participation in the CLASS Therapy Model framework leads to increased identity building and self-reflection during the implementation of classroom-based therapy services and interprofessional practices among SLPs and teachers.

Theme 1: Connecting Language and Literacy Skills

Assertion 1-Connecting language and literacy skills during the CLASS Therapy Model framework activities and outputs facilitates SLPs and teachers perceived knowledge and self-efficacy of interprofessional collaborative practices and classroom-based therapy services. The following sub-themes were found to substantiate the theme leading to this assertion: (a) targeted language skills overlap with reading and writing; (b) SLP language intervention can augment the literacy curriculum in the classroom; (c) therapy goals can be connected to the common core state standards for ELA; and (d) the connection of language and literacy can lead to student success and generalization of skills.

Subtheme 1.1: Language skills overlap with reading and writing. The connections between language, reading, and writing are evident. Participants found students' reading skills were enhanced by vocabulary, comprehension, and critical

thinking skills, which in turn improved their writing abilities. Writing, on the other hand, allowed students to express their thoughts and ideas, further developing their language skills.

During each of the ICoP meetings, teams of SLPs and teachers described skills that were addressed together through the classroom-based model. Many students receiving resource support for reading and writing also qualified for speech-language therapy to address language deficits. SLP 1 and SET 1 shared an example of their perceived benefits to working together more collaboratively. They stated, "the classroom-based model allowed us to cohesively align our instruction and therapy which decreased the amount of overlap that occurred between goals that were targeted." They went on to say:

> Most of our kids have similar goals like story grammar is a big area we target, so during lessons they're either answering WH questions or answering inference questions, identifying story grammar parts, learning vocabulary. Who's the character? What's the setting? Problem Solution, internal response. So instead of choosing different passages and teaching different strategies, we choose the leveled reading passages together. After lessons we can discuss quickly with each other which students were successful and which ones struggled and make plans to adjust the lesson for next time.

Subtheme 1.2: Language intervention can augment the literacy curriculum. Language intervention greatly enhanced the literacy curriculum by providing targeted

support and instruction to students who were struggling with language skills. By providing targeted intervention, educators helped students overcome these difficulties and improved their overall literacy skills. For example, if a student was struggling with phonemic awareness, language intervention provided explicit instruction and practice in this area, helping the student develop the necessary skills to decode and read words accurately.

Participants identified targeting speaking and listening skills that overlapped with reading, and writing. SLP 3 stated, “describing, identifying context clues, comparing and contrasting, inferring, sequencing, figurative language, prefixes and suffixes, and multiple-meaning words were just some of the skills that I incorporated into the collaborative lessons.” GET 2 added,

> I started to better understand the disconnect students were experiencing when reading dense narrative or expository text in ELA. The SLP implemented strategies for vocabulary development of common tier two academic words during our lessons and I have seen a huge improvement in students’ understanding of the material they read.

SLPs, GETs, and SETs were able to maintain focus on their unique and complementary abilities by developing a systematic and shared approach to language and literacy within the common core state standards, discipline specific literacy, and intervention frameworks across each grade level. This approach enabled them to engage in inclusive therapy services that supported students on and off their caseloads and

supported a Multi-Tiered System of Support framework for students who were struggling with the grade-level standards.

SLP 3, GET 2, and SET 2 identified the usefulness of incorporating vocabulary and listening comprehension strategies back into the classroom before introducing a new curriculum topic. GET 2 stated, “a lot of times in the general education classroom, we don’t have a lot of time to review new vocabulary, but during our collaborative lessons the SLP showed us quick ways to implement strategies for acquisition of new vocabulary and tier two words found in the curriculum.”

During the interviews, the GET and SET participants discussed how the language interventions and support provided by the SLPs augmented the reading and writing lessons. The SLP participants discussed the addition of social language and cognitive support in the classroom. SLP 1 stated, “I support pragmatic language including improving comprehension of sarcasm, abstract, and figurative language that occurs during classroom discussions and literary text.” SLP 3 used collaborative discussions about the text they were reading in ELA class to measure students’ phonology, morphology, syntax, semantics, and pragmatic knowledge. She explained:

> I can collect data on a students’ vocabulary to see the amount of tier two and three academic words they use during their discussion of the text. I can also measure their gains in syntax by examining the types and amount of coordinating and subordinating conjunctions they use to create

more complex sentences. I can also measure their pragmatic language while they are engaging in discussions with peers by seeing how often they engage in conversational turns, maintain the topic of discussion, clarify their understanding, and so much more.

Subtheme 1.3: Connect therapy goals with the common core state standards. Participants felt that connecting language therapy to the common core state standards helped better address the needs of students with language disorders or difficulties in the classroom. Language therapy aimed to improve students' communication skills, including their ability to understand and use language effectively, so many teacher participants valued seeing how improved language skills supported students' literacy. By aligning language therapy with the common core state standards, therapists targeted specific language skills that were essential for academic success. For example, if a student was struggling with reading comprehension, language therapy from the SLP focused on improving their ability to understand and analyze texts, which was a key skill necessary to meet the aims of the common core state standards.

SLP 3 and GET 3 discussed the perceived benefits they found during collaborative lesson planning and instruction by making the connections between students' language, speaking, reading, and writing goals to the common core state standards for ELA. GET 3 stated:

> A lot of times I go through the mechanics of writing with my students, for example, writing a persuasive paragraph, like writing a topic

> sentence and supporting statements, but the SLP then incorporates aspects of metacognitive and metalinguistic thinking that helps students think about the process of writing like researching a topic, looking for content-specific vocabulary, and planning out and revising their writing. She also talks through with the students about how to use graphic organizers and dictionaries throughout the writing process.

In addition to making the connections between language and literacy more evident, many of the participants identified perceived benefits to providing more student-centered instruction by utilizing the push-in model versus pull-out model of speech therapy. SET 1, GET 1, and SLP 1 talked about the continual struggle of competing over precious time in the daily school schedule to address all student's IEP service minutes. GET 1 stated:

> For many of my students on IEPs, they leave the classroom to go to the resource room for ELA, then they are pulled from my social studies block later in the day to receive speech therapy. By the time the student gets back to my room they've missed a lot of the general education curriculum. Now that the SET and SLP provide collaborative lessons in my classroom, my students are a lot less stressed during the day.

Connecting language therapy to the common core state standards promoted consistency and collaboration among the participants. By connecting language to the common core state standards, therapists were able to work closely with classroom teachers, sharing strategies and resources to ensure that students

received consistent language support across different settings, thus creating a more unified approach to language instruction.

Subtheme 1.4: Student success and generalization of skills. As a result of the classroom-based model, participants reported perceived improvement of students' academic and functional literacy and language skills. GET 2 explained a success is students' "overall comprehension of vocabulary, directions, books that they're reading." She stated how growth has been observed with students' written expression skills because of the SLP's expressive language support in the classroom. SET 1 stated, "students are writing more, and using more details in their writing. They are expressing themselves more clearly too."

Participants also reported an increase in students' connection and carryover of interventions and strategies into other settings. SLP 1 explained how service delivery removed from the classroom impacted the generalization of skills by saying, "I began working here using the pull-out model, and none of it felt like it was being transferred beyond the speech room. I felt like kids just became stagnant with their goals and I saw very little change in their behaviors or goals."

Throughout the logbook entries, recorded ICoP meeting discussions and post-innovation interview responses, many participants felt they had a better understanding of how each of their disciplines can complement one another by bridging the gap between language and literacy for many students who struggle in school. Thus, collaboration between SLPs and teachers can lead to improved language and literacy skills in the general education classroom.

Theme 2: Knowledge Acquisition and Sharing

Assertion 2-The CLASS Therapy Model framework provides a structure for the implementation of classroom-based therapy services and interprofessional practices that leads to increased knowledge acquisition and sharing among SLPs and teachers. The following sub-themes corroborate the theme leading to this assertion: (a) identifying the knowledge needed by SLPs and teachers before and during the collaboration process; (b) continual building of the collaborative relationships is key to overcoming common barriers; (c) the needs of the students and the curriculum guide the co-teaching approach; and (d) the SLPs and teachers also guide the co-teaching approach that's implemented.

Sub-Theme 2.1: Identifying knowledge needed by professionals before and during collaboration. Collaboration between SLPs and teachers allowed for the sharing of knowledge and expertise. By working together, SLPs and teachers were able to pool their resources and experiences, leading to a greater understanding of the students' needs and the most effective strategies for intervention. This collaboration enabled SLPs to gain insights into the classroom environment and students' specific challenges. At the same time, teachers benefited from the specialized knowledge and techniques that SLPs brought to the table. For example, a GET stated:

> During our initial lesson planning, the SLP and I completed the language-based curriculum analysis for the new ELA unit we were going to co-teach. As the classroom teacher, I was able to share with her how the curriculum materials would be applied to address the academic standards

for summarizing, identifying the main idea, and paraphrasing text. The SLP then shared the language underpinnings that students with language and learning deficits would likely experience during the unit lessons, like recognizing big ideas from small ideas in a text and knowing word synonyms, different syntax structures, and identifying key details.

The interprofessional collaboration between SLPs and teachers involved regular communication, with discussions about the needs of specific students and how to support them. The collaboration also involved the development of lesson plans and the sharing of strategies and techniques for supporting individual students. Additionally, an increased focus on data collection and analysis conducted collaboratively between the SLP and teachers led to a perceived increase in student outcomes. Overall, the collaboration was seen as a positive development, with both SLPs and teachers recognizing the benefits of working together to support students in their general education classrooms.

Subtheme 2.2: Overcoming systemic barriers with administrator buy-in.

SLPs and teachers have different training and backgrounds, leading to varying approaches and expectations. This created challenges in finding common ground and establishing effective collaboration. Additionally, time constraints and workload pressures hindered collaboration efforts. SLPs and teachers have demanding schedules, and finding dedicated time for collaboration was challenging. These barriers impeded the effectiveness of collaboration and limited the potential benefits for students.

Throughout the interviews, participants shared barriers to successfully integrating language interventions into the literacy curriculum of the classroom. Limited plan time and scheduling conflicts were common concerns of the participants. Limited autonomy of

the SLPs in deciding their schedules and systemic programming were barriers to bringing language interventions successfully to literacy curriculum in the classroom setting. SLP 3 stated: "Something I struggle with is all the classes I push into are the same period, so if I have an IEP meeting one day during fourth period, I can't make up that missed time in that setting." SET 4 shared:

> It's always a struggle year-to-year with the scheduling. We need time to plan, but some of us are on different teacher teams so we're constantly pulled in a million different directions. We made it work this year, but this is something we are always taking to our administrators because as special education teachers that are expected to provide inclusive support, we are not given enough time to plan and meet with all the teams.

SLP 1 discussed the limitations put upon her by the administration regarding the way services are to be delivered. She explained that her school was planning to implement a systemic change to the placement of students currently in the instructional classes she serviced. She stated:

> With this new schedule change that might be implemented, where it's more co-taught with the special education teacher and general education teacher, instead of pull-out ELA resource classes. I think co-taught is great, but that means a lot of my students that I see right now in these push in resource classes are going to be in a different ELA class where I won't be able to push into.

When asked if she would provide classroom-based services to her students in those classes, SLP 1 explained:

> Not likely in the new co-taught classrooms. I mean I've asked and I'm guessing I won't be able to. They haven't given me a firm answer yet, but with a general education and special education teacher already in the room. I get the impression that it's seen as too many cooks in the kitchen.

Subtheme 2.3: Needs of the student and the curriculum guide the approach. SLPs and teachers shared their insights, strategies, and resources, which led to a more comprehensive and holistic approach to academic instruction and therapy services. This collaboration ensured that all aspects of a student's needs were addressed, both in the classroom and during therapy sessions. By working together, SLPs and teachers were able to create a collaborative environment that promoted the integration of therapy goals into the classroom curriculum. This collaboration ensured that students received consistent support and reinforcement of their speech and language skills throughout the school day.

SET 3 explained how they chose targets and service delivery methods based on the curriculum: "We have done station models. We have done complimentary teaching where she comes in and supports whatever lesson we're doing based on whatever skill is being explicitly taught through the reading lesson."

SLP 3, SET 4 and GET 4 explained the approach and type of lessons they focused on were dependent upon the materials presented in the classroom. Participant 3 pointed out: "It really all stems from what's associated or related from the essential questions that they're working on, the text they're working on." GET 4 gave examples of the SLPs use

of pre-teaching and reteaching lessons: "The beginning of the year, she does, she gives a lot of support on the literacy terms because that's a big part of the standards and curriculum in middle school ELA." She shared:

> We're reading and discussing *The Outsiders* novel, that's what the 7th-grade ELA classes are all teaching. And so, she did a lot on the day she came in, we worked a lot on the major concepts that, you know, like, society and social classes, how the cycle of violence can continue through generations, and what does all those things mean for the characters of the story. So, a lot of building background knowledge.

SLP 1 shared her use of the curriculum: "So I will go in on usually the writing day and support whatever they're writing. Like one class right now is reading The Giver and the assignment they (students with IEPs) are given looks different than the other kids. So, I go in and I support them."

With larger caseloads, the SLPs explained that pushing into the classroom allowed them to see a larger number of students at one time while guiding their delivery towards the students' language needs. SLP 2 described it as "a flexible service delivery model that allows me to see a number of these students at one time and also allows me to support them in their academic goals that align very closely with their speech and language goals." SET 2 stated that the students' IEP goals would drive the lessons and the SLP would "create, like, a unit based on those skills and students IEP goals." The students' specialized needs also impacted the service delivery model used. SLP 1 stated:

> In terms of writing, I create graphic organizers or if a teacher has already created a graphic organizer, I sometimes modify it, or they ask me to go over it. I provide sentence starters, transition words, and word banks sometimes. I've also provided like direct instruction on how to write complex sentences, grammar, and conjunctions.

SLP 1 also shared: "I'll do like pre reading activities, sometimes I'll do activities that kind of look back at the reading because our students, like need those multiple reads of the text to understand it." SLP 3 explained that she would base her services within the class on the students' IEP needs: "Even for the social skills pieces, like I would know what the kids are struggling with in the classroom, because spending more time in the room with the students allowed me get a birds eye view of their strengths and needs."

Subtheme 2.4: SLPs and teachers guide the co-teaching approach.

Collaboration promoted a sense of shared responsibility and accountability among SLPs and teachers. By working together, they established clear goals and objectives for academic instruction and therapy services, ensuring that they were aligned with the overall educational objectives of the classroom. This shared responsibility fostered a sense of teamwork and unity, creating a supportive environment for students and professionals.

SET 2 explained how at times she would take a supportive role based on the SLPs targeted skill: "She (the SLP) has come in and ran the lesson, you know, we talked about it beforehand, and so I knew what role she wanted me to play in supporting her in that delivery."

GET 4 pointed out that whoever took the lead would depend upon the educator's specialty:

> It's just whatever naturally seems to fit one of us better we'll take that and run with it. If it's vocabulary, she's usually leading because that's just her thing, or figurative language or that kind of thing; she's usually leading. But if it's more of like a writing task, she's usually, you know, like we're doing the (writing) model, I'm usually leading and she's supporting.

SLP 2 and 3 stated that the teachers' need for instructional support would determine the focus and approach. SLP 3 explained, "a lot of teachers in the push in setting will hand off grammar and syntax to me." GET 5 mentioned she would request the SLP to support a specific lesson to "see how it would work." She stated: "I need support and understanding how to support them with their speech and language skills."

SLP 1 and 2 revealed that the teachers' understanding and openness to their services impacted their approach and delivery. SLP 3 acknowledged: "I like to individualize my push in based on my relationship with the teacher and the teacher's understanding of push in, in order for it to be successful." Additionally, the teacher's regulation of time and level of comfort with role release determined the way the services were provided. During the post-innovation interview, SLP 1 stated:

> For one of the teachers, she wasn’t super responsive about making time to plan and meet for collaborative lessons, so we ended up just doing a station teaching approach to co-teaching. I think the teacher had a hard time with giving up some of her instruction time for me to be in the

classroom, so station teaching still gets me in the classroom, but allows her to still have her instruction time. It's a compromise for now.

Theme 3: Social Interaction and Collaboration

Assertion 3-The CLASS Therapy Model framework provides a shared space to discuss the successes and barriers of the classroom-based therapy services and interprofessional practices that leads to increased social interaction and collaboration among SLPs and teachers. The following theme-related elements support the theme leading to this assertion: (a) sufficient time for collaborative lesson planning is essential; (b) collaborative partnerships lead to increased professional growth; (c) collaborative lesson planning and strategy sharing increases; and (d) the ICoP facilitator is crucial for ongoing feedback and support. The activities and outputs in the CLASS Therapy Model ICoP facilitated increased social interactions and collaboration among SLPs and teachers.

Subtheme 3.1: Sufficient time for collaborative lesson planning is essential. Throughout the ICoP meeting discussions and interviews, participants expressed a need for sufficient planning time to successfully employ classroom-based service delivery models. SLP 1 indicated that she spends "10-20 minutes" per week informally planning with SET 1 and both spend 60 minutes per week in Professional Learning Committees (PLC). SET 1 stated: "I don't know if we'd see some of these successes if, and we're able to make it work, without collaboration time."

SLP 2 and SET 2 engaged in 30-minute, weekly scheduled plan times and 45 minutes per week in Professional Learning Committees (PLC). SLP 3 found that time "to be critical for us being able to do this appropriately." SLP 3 stated: A lot of time is spent

one-on-one with the teacher outside of the class when we're not having class time to plan and prepare. That one-on-one time with the teacher is important too."

Planning time for SLP 2 and GET 2 was not regularly established. SLP 2 stated: "Planning time could be five minutes or an email," and "A lot of times it was just a quick chat in the hallway." SLP 2 stressed:

> You really need the time for it to run the way that you want it to run. It's one thing to have someone there to support you. That's pretty much how I used it, right? But if you wanted to make, if you want it to be dynamic, and you really want her really thoughtfully planning with you to create something that's speech like but then also supports the content, you need time to plan. You need time for that teacher to understand your strategies, your goals. The teacher needs time to understand how it needs to be more speech related. It's a lot harder than people realize. There's way more finesse involved in it than people think.

SLP 3 further explained that in the early years of pushing into English language arts classrooms "not much" plan time was shared and services in the classroom were "very isolated lessons." Over the last three weeks, she explained: "We progressed in our planning time talks in terms of what we thought was best for the kids in our classes. I would say collaboration picked up a lot more after about 3 weeks of participating in this study."

Subtheme 3.2: Collaborative partnerships lead to increased professional growth. By working together, SLPs and teachers learned from each other's experiences

and expertise. They reflected on their practices, identified areas for growth, and developed new skills. This collaboration enhanced their professional development and ultimately benefited the students they serve. When professionals worked together more collaboratively, they supported and encouraged each other, which led to increased confidence in their abilities.

Collaboration contributed to a belief in one's own competence in providing classroom-based therapy services. This confidence was essential for professionals to implement interventions and support students' communication needs effectively. SLP 2 stated that the services differ between teachers and depending on "who you're working with impacts how much you're allowed to actually be responsible for in the classroom."

SLP 3 described the services as "very collaborative" with SET 3 describing it as "Integrated. It's not a separate entity. She doesn't come in with an entirely separate game plan going on from what we're doing in the classroom." Integration of interventions and lessons are explained by SLP 3:

> We are really co-facilitators to be honest. Like I start the lesson and she (the special education teacher) is constantly, her role is constantly thinking about what they are doing in class. And she helps facilitate some questions that help the students connect, make connections between what they just did in class and how it aligns with what I am talking about.

Similarly, SET 2 and SLP 2 described the collaboration within the classroom as equal co-teachers. SET 2 stated: "When we're in the room together, I would definitely say that we're of equal standing." SLP 2 described:

> I also see it like kind of like a co-teaching way where sometimes, maybe I'll lead the lesson and the main teacher will lead a lesson or we'll switch and like rotate with groups. So, we're kind of both at the same level in the class.

SET 4 described how the collaboration between the two translates into co-teaching methodology within the classroom setting:

> Sometimes she's leading the lesson, and my role is just to kind of be that walk around the room, input when I can kind of be more of the support person. Sometimes I'm leading the lesson, she's a support person and then other times, I would say, we have also done more of a parallel where, you know, she takes a small group, and I take small group and we're doing the same thing, but we're doing it with small groups.

SLP 3 explained that when she began providing classroom-based services, there was no plan time between the SLP and the special education teacher. The collaboration within the classroom was explained as follows:

> When I first started pushing in like nine years ago, a lot of the teachers would leave, and they would go to planning. They would use it as a planning period, or they might have a meeting scheduled then.

SLP 2 explained that as teachers remained in the classroom more, planning time increased to "five minutes or an email." Then, she took "more of a supportive role." GET 2 described her role as "the main service delivery person" and explained:

> When she's there supporting a lesson, I'm in the classroom. I am physically in front of those students, either in front of the room or by them or moving around them. You know, I'm the one maybe passing out the work or getting the Chromebooks up, or you know, presenting the material on our board, things like that. So, I'm physically in the room, moving around handling that. She (The SLP) was always typically with a group of students that I knew she was supporting.

Subtheme 3.3: Collaborative lesson planning and strategy sharing increases. SLPs and teachers worked together to create more effective lesson plans that incorporated strategies to support students' speech and language needs. Teachers and SLPs created and shared lesson plans that were tailored to the specific needs of students with language and learning disorders. SLPs provided insights into a student's speech and language goals, and teachers better integrated these goals into their teaching plans. Regular collaboration promoted open communication between teachers and SLPs. They discussed progress, shared observations, and adapted strategies as needed, ensuring that students received consistent support across both the classroom-based therapy services and academic instruction. Collaborative planning fostered a more inclusive classroom environment. Teachers gained insights into how to create a classroom that accommodates the needs of all students, including those with language and learning disorders. SLPs used data to track students' progress. This data was shared with teachers to inform instruction. Together, they made more data-driven decisions to adjust strategies and goals.

During the ICoP meeting discussions, participants discussed modifications and adjustments to the plans, and shared their findings and strategies with each other. SLP 2 stated:

> During the previous week, I visited a second-grade classroom. I introduced a nonfiction article on snakes and together, we completed a KWL (know, want to know, learn) chart. Afterward, we read the passage out loud, asked the students to identify and highlight any facts they weren't aware of, and made notes about new vocabulary. The general education teacher demonstrated the process using a document camera, and then we divided into small collaborative groups to read and address comprehension questions.

Another example of this collaboration was seen in the discussion of testing and data collection. SLPs and teachers worked together to collect data on student progress and identified areas of need. They discussed different strategies and techniques for collecting data and shared their findings with each other regularly. This collaboration not only improved the accuracy of the data collected, but also increased the knowledge and self-efficacy of both SLPs and teachers.

During the ICoP meetings and interviews, participants discussed the professional sharing of strategies and interventions between each other because of the collaboration, which extended, at times, throughout the school. SLP 1 explained her classroom-based service delivery as "Not closed. It's not secretive. It's not something they don't have access to. And when they see it, they learn from my strategies in my ways." SLP 3 stated:

"Professionally, I feel like I do learn from the teachers I push into and work with. They offer a different lens that I don't know. They come from a different background that I didn't receive training in." SLP 2 explained successes beyond their classroom:

> One thing that I feel like in the last couple years since we've been working on that team, we've been able to get some of the general education teachers to use more of those graphic organizers or scaffolding and seeing it really work well for some of the mainstream students. We have found that what is helpful for a few students in the classroom is actually beneficial for all students.

Many of the participants perceived co-teaching as having a positive impact on student engagement. Additionally, SLPs and teachers worked together more often to address social-emotional needs of students. They discussed strategies for coaching teachers on how to get students to attend their classes and come prepared. They also discussed the needs of students with autism, attention deficit hyperactivity disorder, or executive function disorders and how to best support them in the classroom. SLP 3 explained the result of teachers staying in the class during classroom-based services: "Now they stay, and they learn the strategies we are using and a lot of times they are a big part of the discussion or whatever is going on." During an ICoP meeting discussion, SLP 2 stated, “students are more engaged.” SET 2 added, “students are more engaged and on-task.” GET 2 shared, “students are showing more effort during lessons, they are more engaged with each other, spend more time on tasks, and students with difficult behaviors or learning needs are also more engaged.”

The classroom-based model allowed many teachers to feel more successful when it came to differentiating the curriculum for students with language and learning disorders. GET 5 stated:

> The question is always how can I support the individual needs of students in my classroom? So better knowing that a student is acting in a certain way or being a distraction because they are struggling, maybe they don't have the background knowledge, or their limited vocabulary is causing them frustration. So having the SLP or SET in my classroom helped me pick up on those struggles more quickly and adapt my instruction to meet more of the individual needs of students.

Subtheme 3.4: The ICoP facilitator is crucial for ongoing feedback and support. The ICoP facilitator played a crucial role in facilitating collaboration among individuals. By providing guidance, support, and encouragement, mentors created an environment that fostered collaboration and teamwork. ICoP facilitators also supported collaboration by promoting open communication among individuals. The ICoP facilitator offered advice, suggestions, and resources to individuals, enabling them to collaborate effectively. They provided insights on how to work together effectively, resolve conflicts, and leverage each other's strengths. By offering support, the ICoP facilitator empowered individuals to collaborate and achieve their shared objectives. SLP 1 stated:

> The CLASS Therapy Model resources and ICoP facilitator were helpful with taking that first step by having an example letter for reaching

> out to teachers. I also liked the advice given during the initial meeting about finding a person that you feel like you can work with, and you feel will be committed to the partnership. This may be a friend, or it may be a brand-new teacher to the school.

Participants described a range of interactions they encountered during participation in different classroom-based service delivery models. They also shared the significance of working well together. The quality of the collaboration and working relationships, along with the amount of time spent together, interacted to have a combined effect. SLP 2 shared a success she experienced:

> This collaboration and shared space in the classroom are demonstrated when "she (the special education teacher) knows what I'm going to do that day, and she sets the learning target up for me. She also works hard to support the strategies I've implemented in the classroom.

SET 2 explained that as she and SLP 2 "are lucky enough to actually have forged a friendship outside of class, and I think it's because we have worked so closely together during this collaborative model" which has helped them navigate busy schedules and allowed them to experience more success. Participant 4 explained that consistent feedback and support during the collaborative model helped build relationships: "The continuity is super important I think, in order to build a relationship, the relationship of the two teachers, knowing each other, having time to plan together, I think that's all super important."

Theme 4: Identity Building and Self-reflection

Assertion 4-Participation in the CLASS Therapy Model framework leads to increased identity building and self-reflection during the implementation of classroom-based therapy services and interprofessional practices among SLPs and teachers. The following theme-related components were identified to validate the theme leading to this assertion: (a) identifying roles and responsibilities early in the collaborative partnership is key; (b) positive outcomes are tied to ongoing support and feedback; (c) ongoing self-reflection helps the team identify strengths and needs; and (d) ongoing collaboration can lead to shared resources and training tools.

Subtheme 4.1: Identifying roles and responsibilities early in the collaborative partnership is key. One common subtheme that emerged from the semi-structured interviews was the importance of identifying the roles and responsibilities of each co-teacher or collaborative partner early on. SET 3 shared, "once we knew what co-teaching roles should look like and could look like, we felt more prepared to implement the process." When discussing co-teaching roles, another participant mentioned the importance of defining co-teaching roles upfront. GET 2 stated:

> I think that when you have a co-teacher you have to do the same thing periodically, which is sit down and say okay this is how I see this role and they say how they see the role, and then you kind of come to a consensus and understanding that we're here to help teach not just manage within our individual areas of expertise.

During the interview, SLP 2 stated, “SLPs and teachers must define roles prior to co-teaching.” That same participant suggested co-teachers should express the tasks they are comfortable with so they can be assigned the most successful roles. SLP 2 shared:

> I liked the CLASS Therapy Model workbook and discussions that we had as a whole group during the ICoP meetings. The workbook and discussions gave us the opportunity to talk about really practical hands-on -you need to accomplish this first, - you need to have a meeting before things start, and you need to make a list of the tasks that need to be done before you create and teach the lesson, and then like go through the list and pick; I feel more comfortable introducing the topic, and somebody else feels more comfortable, you know, talking about the vocabulary or strategies being used, or whatever it is. I feel like just getting the roles assigned, if you will, so that everyone feels comfortable.

Subtheme 4.2: Positive outcomes are tied to ongoing support and feedback. Another common subtheme mentioned among many of the participants during the semi-structured interviews was the perceived benefits of ongoing support and feedback they received during the ICoP meetings. SLP 1 mentioned, “It’s really stressful when you try to take-on something like push-in therapy or co-teaching when you never had any training or experience with it but knowing that I wasn’t alone, and I had support from the other group members and the ICoP facilitator really helped keep me going.” During one of the ICoP meeting discussions, SET 3 shared how she had only received one, two-hour training about the different co-teaching models before and this really impacted her

confidence and capacity to feel successful in the co-taught classroom. That same participant said:

> Training shouldn't be just like one day or one half-day or whatever, I feel like you need it to start before the school year even starts and have ongoing meetings throughout the year. Even if the first co-taught lesson felt like a big flop, I was able to take the feedback from the group and each co-taught lesson felt more and more successful after that.

GET 3 mentioned the perceived benefits of the ongoing ICoP meetings because it helped the collaborative partners build relationships and identify each other's nuances. She also mentioned the usefulness of working with an ICoP facilitator as a means of ongoing professional development and support. One co-teacher suggested that additional education regarding how to monitor progress during a lesson is needed (i.e., "more time on maybe how to create curriculum formative assessments…how can you have here's the content, the standards, and the IEP goals we need to meet, how can we work collaboratively to design those things"). GET 4 suggested additional training is needed to track and measure the data during progress monitoring, "I need more examples of how this is done with a busy schedule like mine. I need methods that work and can be easily implemented. Give me an actual method that works or something to try before I can just do it on my own."

Subtheme 4.3: Ongoing self-reflection helps the team identify strengths and needs. Ongoing self-reflection was a valuable practice for SLPs and teacher teams to identify strengths and needs in their collaborative partnerships. Regular self-reflection encouraged SLPs and teacher teams to be more aware of their individual and shared

actions, decisions, and their impact on student learning. It helped them understand their teaching and communication styles, as well as how they interact with students, families, and other professionals.

During the ICoP meeting discussions and semi-structured interviews the importance of ongoing reflection about collaborative partnerships was another consistent subtheme. SET 4 and GET 4 really liked participating in the innovation as a co-teaching pair. SET 4 stated, "Right off the bat, I felt like we were in this partnership together, it didn't seem like one person was carrying all the weight or responsible for maintaining the collaborative partnership." GET 4 shared, "I really liked how we got immediate feedback that strengthened our communication and collaboration over time. Also, doing the occasional collaborative team reflection surveys helped us identify strengths and needs to keep us moving forward." SLP 1 and SET 1 both felt more confident co-teaching as a result of participating in the CLASS Therapy Model ICoP. SLP 1 said:

> I don't think our collaboration would have been as successful without the ongoing support and feedback we got throughout the process. Not only do I know we will maintain our collaborative partnership, but I also feel like I can reach out to other special education or general education teachers at different grade levels and share with them what we (SET 1) accomplished by working more collaboratively.

Self-reflection helped participants develop a growth mindset, which was essential for effective collaboration. By reflecting on past experiences and learning from both successes and failures, individuals developed a mindset that embraced challenges and

values continuous learning. This mindset fostered a collaborative environment where individuals were open to feedback, willing to take risks, and committed to personal and collective growth. SLP 1 shared, “I liked learning about the curriculum, and with the teacher’s help, I learned how to better implement the curriculum content into my therapy interventions.” She went on to say:

> I can recall my previous attempt to integrate classroom material into my therapy sessions, and it felt like a daunting task due to teachers being at various stages in their curriculum. However, through continuous self-reflection, I've managed to discover ways to assist students in the classroom without the pressure of mastering the entire curriculum. Speech-language pathologists should try to grasp the broader curriculum framework, comprehend the foundational language skills crucial for students' academic success, and have a comprehensive understanding of the academic abilities of the children on our caseload, encompassing their listening, speaking, reading, and writing skills.

Through ongoing reflection, interprofessional teams continually adjusted their assessment and instructional practices to best maintain a student-centered focus and provide curriculum relevant therapy and instruction.

Subtheme 4.4: Ongoing collaboration can lead to shared resources and training tools. To foster successful collaboration, it was important for both SLPs and teachers to have open communication, mutual respect for each other's expertise, and a shared commitment to the students' well-being and success. When these factors were present, collaboration led to the creation of valuable resources and training tools that had

a positive impact on student learning and communication skills. SLPs created speech and language materials, such as worksheets, games, and visual aids, that were designed to enhance communication skills. These materials were implemented during co-teaching lessons, then used by teachers to support students' ongoing speech and language development when the SLP was not present.

In addition to sharing resources like lesson plans, visuals, and having opportunities to discuss their successes and failures in a safe group, participants also benefited from observing each other's recorded co-taught lessons. SET 4 stated, "I really liked watching the other groups' lessons because it was reassuring to see them implement a similar plan. SLP 3 added, "You could also give them feedback or help them problem solve areas in their lesson that they may have struggled with, so you can learn what not to do or what to do in your own lessons." GET 5 went on to say:

> I think it would be really helpful to build like a library of these co-teaching session videos for reference. They give you different ideas you might not have thought of, and they also give you a frame of reference for how your own co-taught lessons are going. I hope that is something the district can start doing. It would be helpful for new teachers and veteran teachers.

CHAPTER 5

DISCUSSION

Chapter 5 discusses the innovation outcomes for each of the research questions in relation to the literature along with some of the personal lessons the researcher learned along the way. Next, the study is grounded in a theoretical framework and the researcher shares the advantages to conducting a mixed-methods study. Following that, the researcher presents lessons learned through the action research study implementation. The chapter concludes with the limitations of the study and implications for practice and future research.

Complementarity and Integration of Quantitative and Qualitative Data

A key step in mixed-methods action research is to combine data analysis for the purpose of comparing quantitative and qualitative results (Ivankova, 2015). This provides added credibility to the overall results and findings and can help inform implications for the innovation. The researcher used a six-step protocol developed by Farmer et al. (2006) to triangulate the data. The first step involved sorting the data from the survey and qualitative document analysis to organize and categorize common themes and patterns across the different sources of data. Then a convergence coding system was used to identify similarities and differences to classify areas of agreement, partial agreement, silence, and dissonance between the survey and qualitative data analysis. The third step involved conducting a convergence assessment to determine areas where the data sources align and provide a consistent understanding of the research questions. Next, an assessment of its completeness was conducted to ensure that all relevant aspects of the

research questions are addressed. The fifth step is a researcher comparison of the data interpretation to identify any discrepancies or biases. Lastly, a description and interpretation of the merged information was developed for dissemination of findings.

The IPEC Core Competency Survey provided statistical information on the participants' knowledge and self-efficacy of interprofessional collaboration in the school setting (IPEC, 2011). The qualitative data collected from participants' logbook entries, transcripts of ICoP meeting discussions, and semi-structured interviews captured participants' perceived experiences, benefits, and barriers to the implementation and maintenance of classroom-based therapy services. By combining these two types of data, a more holistic picture of the participants' perceived knowledge, self-efficacy, implementation, and maintenance of interprofessional collaborative practices and classroom-based therapy services is presented. Table 14 provides the complementarity of quantitative and qualitative data.

Table 14

Triangulation of Quantitative and Qualitative Data

Research Question 1: How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' collective knowledge and self-efficacy of interprofessional collaborative practices and classroom-based therapy services?
Research Question 2: How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' implementation and maintenance of interprofessional collaborative practices and classroom-based therapy services?
Research Question 3: What perceived successes and barriers do SLPs and teachers experience following participation in the CLASS Therapy Model framework?

Qualitative Assertions	Quantitative Survey Data	Convergence
The CLASS Therapy Model framework provides a structure for the implementation of classroom-based therapy services and interprofessional practices that leads to increased knowledge acquisition and sharing among SLPs and teachers.	Values and Ethics: The largest growth margins were evident in the competency of Values and Ethics as 44% of participants indicated they agree or strongly agree with the statement regarding improved knowledge and self-efficacy for working with individuals from different professions to maintain a climate of mutual respect and shared values, compared to 23% of participants in the pre-innovation survey.	Full Agreement
Connecting language and literacy skills during the CLASS Therapy Model framework activities and outputs facilitates SLPs' and teachers' perceived knowledge and self-efficacy of interprofessional collaborative practices and classroom-based therapy services.	Roles and Responsibilities: The third largest growth margins were evident in the competency of Roles and Responsibilities as 40.5% of participants indicated they agree or strongly agree with the statement regarding improved knowledge and self-efficacy for using the knowledge of one's own role and those of other professions to assess and address the educational needs of students appropriately and to promote and advance the education of populations, compared to 20.4% of participants in the pre-innovation survey.	Partial agreement

Qualitative Assertions	Quantitative Survey Data	Convergence
The CLASS Therapy Model framework provides a shared space to discuss the successes and barriers of classroom-based therapy services and interprofessional practices that leads to increased social interaction and collaboration among SLPs and teachers.	Interprofessional Communication: The fourth largest growth margins were evident in the competency of Interprofessional Communication as 36% of participants indicated they agree or strongly agree with the statement regarding improved knowledge and self-efficacy for communicating with administrators, students, families, communities, and other education professionals in the education field responsively and responsibly that supports a team approach to the promotion and maintenance of education and the prevention and treatment of learning and language disorders, compared to 19.6% of participants in the pre-innovation survey.	Partial agreement
Participation in the CLASS Therapy Model framework leads to increased identity building and self-reflection during the implementation of classroom-based therapy services and interprofessional practices among SLPs and teachers.	Teams and Teamwork Competency: The second largest growth margins occurred in the competency of Teams and Teamwork as 40% of participants indicated they agree or strongly agree with the statement regarding improved knowledge and self-efficacy for apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate student-centered education programs and policies that are academically relevant, timely, efficient, effective, and equitable, compared to 19.7%% of participants in the pre-innovation survey.	Full agreement

Convergence

Two areas showed full agreement in the data sets. The first major outcome of the study was that participants demonstrated the greatest increase in knowledge and self-efficacy for the values and ethics of interprofessional collaboration, meaning they were better able to work with individuals from different professions to maintain a climate of mutual respect and shared values. This outcome is corroborated by the assertion that the CLASS Therapy Model framework provided a structure for the implementation of classroom-based therapy services and interprofessional practices that lead to increased knowledge acquisition and sharing among SLPs and teachers. In the pre-survey, 23% of participants indicated that they agreed or strongly agreed that they could effectively work with individuals from different professions. In the post-innovation survey, 44% of participants agreed or strongly agreed. These results demonstrate that the CLASS Therapy Model framework positively impacted SLPs' and teachers' knowledge and self-efficacy for the implementation of classroom-based therapy services while maintaining a climate of mutual respect and shared value during interprofessional collaboration.

Full agreement of the data sets was also shown regarding the construct of teams and teamwork. The assertion that the CLASS Therapy Model framework leads to increased identity building and self-reflection for SLPs and teachers during the implementation of classroom-based therapy services and interprofessional practices was supported by the study outcomes. A statistically significant difference was found between the pre-and post-survey outcomes of participants' perceived self-efficacy for applying relationship-building values and principles of team dynamics to perform effectively in different team roles. This includes the planning, delivering, and evaluating student-

centered education programs and policies for students with language and learning disabilities that are academically relevant, timely, efficient, effective, and equitable. These two areas of convergence bolstered the overall study findings regarding SLPs and teachers' knowledge, and self-efficacy to implement classroom-based therapy services and interprofessional collaborative practices.

Dissonance

Additional study outcomes showed partial agreement across data sets. Qualitative findings showed that connecting language and literacy skills during the implementation of the CLASS Therapy Model framework facilitated SLPs and teachers understanding and self-efficacy for classroom-based therapy interventions and interprofessional collaborative practices. This outcome was not fully substantiated by the quantitative data, likely because the survey items did not assess participants' self-efficacy related to the use of connecting language and literacy skills directly. Another area where the study data showed partial agreement was regarding SLPs and teachers developing interprofessional communication skills that leads to increased social interaction and collaboration. The interprofessional communication competency in the survey measured perceptions of self-efficacy related to communicating with administrators, students, families, communities, and other education professionals responsively and responsibly that supports a team approach to the promotion and maintenance of education and the prevention and treatment of learning and language disorders. In the pre-survey, 19.6% indicated they agreed or strongly agreed with statements related to their ability to communicate responsively and responsibly. In the post-innovation survey, 36% agreed or strongly agreed they can communicate effectively. Two of the eleven survey items did not address

participants increased social interaction and collaboration and had more so to do with avoiding the use of discipline specific vocabulary and choosing effective communication tools and techniques for facilitating discussions and interactions. While this study's primary focus was on the increased use of social interaction and collaboration, these two areas of dissonance could be further examined in future research.

Outcomes Related to Research and Theory

While some SLPs attempt to provide classroom-based therapy services, most SLPs' service delivery is provided in a separate setting away from the reading and writing instruction in the classroom. The aim of this study was to make a shift toward more inclusive and collaborative practices among SLPs and teachers by establishing a systematic framework for implementing and maintaining interprofessional collaboration and classroom-based service delivery models. The CLASS Therapy Model framework examined SLPs and teachers' experiences with implementing and using the framework and focused on addressing three main questions. Each research question is answered in the following section with supporting evidence. Next, a summative discussion about how quantitative and qualitative findings connect to the theoretical framework and related literature used to guide the study is provided. The theories guiding this action research study included social constructivism (Vygotsky, 1978), adult learning theory (Knowles, 1968), and the theory of self-efficacy (Bandura, 1977). Related literature focused on the concepts of interprofessional collaboration, job-embedded professional development, communities of practice, situated learning, and reflective learning. Each contributed to the framework of the innovation in the study and substantiated the findings discussed below.

Research Question 1

How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' collective knowledge and self-efficacy of interprofessional collaborative practices and classroom-based therapy services?

Recall from Chapter 2, social constructivism theory describes the key components of social interaction, collaboration, and dialogue as necessary for adult learners to actively construct knowledge (Vygotsky, 1978). This theory is supported by both qualitative and quantitative outcomes of this study. The study found that participants' level of knowledge and self-efficacy during survey responses and ICoP discussions and semi-structured interviews demonstrated a significant increase by the end of the innovation, with a large effect size for the study's participant sample. This suggests that the CLASS Therapy Model framework successfully promoted dialogue and engagement among the participants regarding the importance of demonstrating mutual respect, identifying shared values, and utilizing dynamic teamwork in interprofessional practice. The increase in self-efficacy scores and discussions indicates that the participants recognized the value of interprofessional collaboration and understood the role it plays in providing comprehensive, student-centered education to students with language and learning disabilities. These results are supported by previous studies that have been conducted at the pre-professional and professional level among teachers, SLPs, and other education professionals engaging in ICP (Armstrong et al., 2023; Friedman & Nealon, 2023; Pfeiffer et al., 2018; Wilson et al., 2016; Yates et al., 2018).

Research has continued to support the high potential for SLP and teacher collaborative relationships to improve the language and learning outcomes for students with disabilities (Bauer et al., 2010; Chow & Hollo, 2021; Wallace et al., 2022). Social constructivism postulates that professionals, like teachers and SLPs, can engage in collaborative learning experiences, such as joint planning sessions, where they share their expertise, insights, and resources related to teaching and supporting students' needs, for example language and literacy in the classroom. In addition to the increased scores in self-efficacy and discussions during ICoP meetings about the values and ethics competency, the participants also showed a deeper understanding of the competencies for teamwork, roles and responsibilities, and interprofessional communication by the end of the innovation. This suggests that the CLASS Therapy Model effectively enhanced the participants' knowledge and self-efficacy of these core competencies. The participants were able to grasp the significance of their roles and responsibilities within an interprofessional team and develop effective communication skills to facilitate collaboration. These findings are important because, as Pfeiffer et al. (2019) identified, many teachers and SLPs come to their school employment with little to no opportunities to engage in interprofessional education or practice at the pre-professional level.

Both teachers and SLPs are professionals with established expertise and experience. Engaging these professionals in interprofessional collaborative practices during the CLASS Therapy Model ICoP, allowed participants to engage in more self-directed learning opportunities, problem-solving, and application of knowledge in their real-world classroom setting, which directly aligns with principles of adult learning theory. These findings further contribute to the body of evidence in supporting teachers

and SLPs with ongoing, job-embedded professional development opportunities. Much of the previous research focuses on professional development or interprofessional education opportunities that are provided through one-time workshops or a series of modules that are completed independently by school professionals (Benevides et al., 2022; Pruitt-Lord et al., 2021; Testa & Renwick, 2020). The CLASS Therapy Model framework is unique in that it provides opportunities for ongoing knowledge acquisition and professional development through participation in an interprofessional community of practice. Research findings indicated that SLPs and teachers were better able to address a variety of shared challenges, an ongoing exchange of insights, and developed a shared repertoire of classroom-based instructional and therapeutic practices while involved in the interprofessional community.

Bandura's theory of self-efficacy posits that individuals with higher self-efficacy are more likely to approach challenges with confidence and persistence. Following participation in the CLASS Therapy Model ICoP, teachers and SLPs reported increased self-efficacy for supporting each other in developing confidence in their abilities to address the needs of students with language and literacy difficulties. By sharing success stories and best practices, participants were able to boost each other's self-efficacy and tackle challenges more effectively. Bandura emphasizes the importance of observational learning. This was supported in the research findings as participants in the ICoP reported increased opportunities to observe each other's practices and learn from one another. This modeling helped teachers and SLPs enhance their self-efficacy by seeing firsthand how to effectively address language and learning challenges that occur during the instruction of academic curriculum in a variety of educational settings. Constructive feedback is

essential for building self-efficacy. During the CLASS Therapy Model ICoP, teachers and SLPs provided each other with valuable feedback on their approaches and strategies. Supportive feedback reinforced their belief in their abilities and encouraged them to continue refining their skills. Bandura's theory of self-efficacy was a valuable construct to the CLASS Therapy Model framework in supporting collaboration and effectiveness among teachers and speech-language pathologists during participation in the ICoP. By fostering confidence, providing opportunities for observational learning, offering constructive feedback, and promoting collaboration, teachers and SLPs enhanced their collective ability to support students with language and learning difficulties.

Research Question 2

> How and to what extent does participation in the CLASS Therapy Model framework facilitate SLPs' and teachers' implementation and maintenance of interprofessional collaborative practices and classroom-based service delivery models?

The theories and concepts of self-efficacy, communities of practice, situated learning, and job-embedded professional development were all relevant and valuable components of the CLASS Therapy Model framework. These concepts enhanced participants' engagement in interprofessional education and collaboration, skill development, and the overall effectiveness of the classroom-based models implemented by the SLP and teacher pairs. Bandura's self-efficacy theory highlights the importance of problem-solving in building self-efficacy. Outcomes of the study indicated increased self-efficacy between teachers and SLPs while collaborating to solve complex problems with students on their shared caseloads. By working together, participants were better able to

develop innovative solutions and, in the process, enhance their collective self-efficacy. Bandura's theory suggests that verbal persuasion can influence self-efficacy. In the context of the CLASS Therapy Model ICoP, teachers and SLPs found they were better able to provide encouragement and positive reinforcement to one another. In turn, this social persuasion boosted their confidence and motivation for continuing their collaborative partnerships.

The CLASS Therapy Model ICoP provided a platform for sharing experiences, strategies, and resources related to classroom-based service delivery, allowing SLPs and teachers to learn from one another. SLPs and teachers implementing classroom-based service delivery received targeted professional development during the ICoP that aligned with their day-to-day responsibilities, ensuring that the training was directly applicable to their work. These findings are important because no school demographics are identical, even for schools in the same district, so the individual makeup of the school population, culture, and educational professionals impact the successful implementation and maintenance of ICP and classroom-based therapy services.

Situated learning and job-embedded professional development approaches were found to be essential components of the CLASS Therapy Model framework. During the ICoP, SLPs and teachers benefited from situated learning by observing and participating in the collaborative lesson planning and implementation, which allowed them to better address students' specific needs, and adapt their interventions accordingly. The learning that occurred within the ICoP allowed teachers and SLPs to apply new knowledge and skills within their current classroom environment. This helped them better understand the

specific challenges, opportunities, and needs of students with language and learning difficulties in a holistic classroom setting.

The CLASS Therapy Model framework encouraged teachers and SLPs to work together directly, which promoted collaboration from the outset. They observed each other's practices, reflected on their shared lesson planning and instruction, and jointly problem-solved to better identify and support the needs of individual students. Schön's theory of reflection supported the concept of shared problem-solving. For example, when facing complex student needs, participants found that collaborative discussions and reflections helped them identify innovative solutions for each student. By discussing challenges openly, they were better able to brainstorm ideas and experiment with new approaches to improve student outcomes. Participants in the ICoP invested more time than was expected engaging in various activities and outputs in the community, indicating teachers and SLPs ongoing commitment to ICP and classroom-based therapy services. The ICoP facilitated learning, reflection, and short-term changes in teachers and SLPs instructional and therapeutic practices. Lastly, participants found that the ICoP facilitator played a key role in providing ongoing support and mentorship within the community. This support ensured that teachers and SLPs had access to ongoing guidance as they implemented ICP and different classroom-based service delivery models over time.

Research Question 3

What perceived successes and barriers do SLPs and teachers experience following participation in the CLASS Therapy Model framework?

Participants perceived many successes during the CLASS Therapy Model framework, including increased understanding of each other's roles and responsibilities, learning how to connect language and literacy skills, how to develop and implement collaborative lesson plans, and incorporate different types of classroom-based service delivery models. Targeting language skills that overlapped with reading and writing allowed SLPs and teachers to have a common goal and understanding of the specific language abilities that are crucial for successful reading and writing. This shared understanding helped to facilitate effective communication and collaboration between the two professionals. For example, both SLPs and teachers worked together to identify and address specific language difficulties that were impacting students on their caseloads reading and writing abilities, such as phonological awareness, vocabulary knowledge, and grammatical skills. In fact, one of the key aspects discussed by the participants in the study was the importance of professionals working together and building relationships between themselves, and their students and families to support increased student outcomes. Additionally, this collaboration not only improved the quality of the lesson plans being implemented, but also increased the knowledge and self-efficacy of SLPs and teachers' shared understanding and identification of language deficits that impacted students' progress in literacy and core academic content. This highlights the significance of ongoing interprofessional collaboration and teamwork in school-based practice.

Study findings indicated that ICP allowed teachers and SLPs to conduct a more comprehensive assessment of students' academic and social-emotional strengths and needs. The CLASS Therapy Model framework promoted a shared responsibility for student assessment and intervention. These efforts led to more holistic and student-

centered education and support. Teachers and SLPs reported more effective and efficient work practices while engaging in the CLASS Therapy Model ICoP. By working together, teachers and SLPs found they could more efficiently collect student data, communicate with families, and build on each other's expertise and strengths. The ICoP allowed teachers and SLPs to foster a culture of continuous professional growth and learning. When SLPs and teachers work in interprofessional collaborative partnerships together, they can reinforce each other's efforts throughout the school day. In addition to reported increases in knowledge, self-efficacy, and use of ICP and classroom-based therapy services, participants also developed a library of tools and materials that can be referenced and modified for continuing ICP and classroom-based therapy services. Teachers and SLPs now have access to a collection of collaborative lesson plans, classroom visuals, graphic organizers, and curriculum-based assessments across a multitude of grade levels.

Like previous studies reported, certain systemic and interpersonal barriers continued to provide challenges during the implementation and maintenance of ICP and classroom-based therapy services (Pfeiffer et al., 2019). The most common barriers continued to be time constraints and scheduling, resistance from other professionals, and lack of support from school administrators. Teachers and SLPs indicated that their schedules and job responsibilities varied greatly depending on their student caseload throughout the school year. Finding time for consistent collaborative activities was challenging, so when changes to teachers and SLPs workload occurred, this directly impacted their ability to communicate and plan consistently. Some participants reported residual resistance to change or not fully understanding the benefits of ICP. Participants

reported initial resistance stemmed from concerns about added workload, perceived changes in job roles, or a belief that their expertise was sufficient to address all students' needs. Lastly, some participants reported inadequate support or buy-in from their school administrators. Without sufficient support from school leaders, ICP and classroom-based service delivery is difficult in addressing the necessary resources, scheduling and time allocations, and training to establish an interprofessional collaborative school culture.

While administrators vary from school to school, it is crucial for all education professionals to advocate for dedicated time within the schedule for interprofessional collaboration. As one participant pair reported, this can be achieved by establishing regular team meetings and joint planning periods that occur at least once weekly. Ongoing training and professional development within an ICoP framework can help school professionals continue to build their understanding of the benefits of collaboration and skill development needed for effective teamwork. By establishing regular collaboration meetings, teachers and SLPs can better foster open and clear communication channels for regular student updates, sharing of information with other professionals and families, and feedback sessions to enhance interprofessional collaboration. School administrators play a crucial role in promoting and supporting interprofessional collaboration. With barriers like scheduling and lack of administrator support, teachers and SLPs can use creative collaborative tools and technology, such as those incorporated in the CLASS Therapy Model framework, to maintain ICP. Digital tools and technology like Zoom meetings, Google Docs, and the Google Classroom Platform streamlined the communication and collaboration process, making it easier for teachers and SLPs to work together, even while they were located at different schools.

Personal Lessons Learned

Four years ago, as a novice action researcher, I was given the great opportunity to engage in a doctoral program that would strengthen my leadership skills and provide the means for actualizing my innovation. As a result of this study, I have learned some important lessons that pertain to (a) the advantages of conducting a mixed methods action research study and (b) the importance of grounding a study in a theoretical framework.

Advantages of conducting a mixed-methods study

Conducting a mixed-methods action research study in a K-8 public school setting can offer several advantages that contribute to a comprehensive understanding of collaborative educational practices, student learning and outcomes, and overall systems change within school districts. The mixed-methods action research approach allowed the researcher to gain a more comprehensive and holistic understanding of the CLASS Therapy Model framework's impact on participants knowledge, self-efficacy, implementation, and maintenance of ICP and classroom-based service delivery models. Taking a mixed-methods approach aided the researcher in triangulating findings to converge the quantitative and qualitative results and enhance the overall validity and reliability of the research. The qualitative data from participants' logbook entries, recorded ICoP meeting discussions and semi-structured interviews allowed for more descriptive contextual data of the SLPs, teachers, and their unique school setting that supported outcomes from the quantitative data. These insights were crucial for tailoring aspects of the CLASS Therapy Model framework to the specific education professionals involved and implementation of their recommendations during subsequent cycles of action research.

Developing and implementing a framework for ICP and ongoing professional development is a complex educational challenge to undertake, so capturing both qualitative and quantitative data and analysis led this researcher to conduct more insightful interpretations of the problem and innovation framework that was developed. Another advantage of the mixed-methods action research approach was the ability to emphasize the voices of the SLPs and teachers' diverse perspectives which led to more authentic and meaningful findings. The mixed-methods approach enhances the credibility of the research results by combining rigorous quantitative analysis and deep qualitative insights. This approach also helps mitigate any biases that can occur with the use of only quantitative or qualitative methods. Conducting research in the K-8 public school setting is a complex and multifaceted endeavor. Thus, using a mixed-methods action research study provided the researcher a more robust and nuanced picture of the outcomes for dissemination of findings, enabling educators and administrators to make informed decisions and positive changes.

Grounding the study in a theoretical framework

The aim of this study was to develop and deliver an IPE framework for the implementation of ICP and classroom-based service delivery models to a group of diverse education professionals. This study was grounded in the theoretical frameworks of social constructivism, adult learning theory, and communities of practice. These theoretical frameworks were essential to the organization and application of the CLASS Therapy Model framework. In the role of researcher, the more I immersed myself in the applications of these theories, the longer I thought about how they are either easily reinforced or abandoned during the research methodology and design process. Like

Vygotsky, I believe that learning is and should be a social experience. In fact, this theory guides much of my work as a school based SLP providing language and speech interventions to students. Findings from this research study continue to reinforce the need for adults to engage in collaborative learning and social interaction as opposed to independent learning. Despite this, higher education programs and professional development opportunities remain discipline specific, thus further perpetuating the siloed approach to educational instruction and support services that school-age students receive.

Lessons Learned through Implementation

A valuable lesson I learned throughout the implementation process is the importance of gaining an understanding of the high variability of experiences, perceptions, and expectations education professionals with diverse expertise bring to the table. As witnessed during the implementation of the CLASS Therapy Model framework, differences not only occurred between the two diverse professional groups of SLPs and teachers, but also within one's individual professional group. While these two groups of professionals have very similar aims of helping children and adolescents succeed academically and socially, they also come to the school setting with diverse epistemological knowledge and beliefs. With that in mind, I would have liked to provide more diverse and individualized feedback to participants during the ICoP process, by including additional educational coaches or administrators to take on the role of mentor. Education professionals may be more receptive to feedback when receiving it from an individual with the same educational background and experience or someone that holds a role of authority on the campus where they work. By involving educational coaches or administrators in the process, this could help expand the use of ICP and different

classroom-based service delivery models that occur between teachers and SLPs across campuses. Additional mentors could conduct ongoing observations and provide regular feedback that is pertinent to their continued professional growth and development of interprofessional collaborative practices.

Limitations of the Study

The limitations of the current study impacted the generalization of the findings to other SLPs, general education teachers, and special education teachers, or any other population (Creswell, 2012). Per Creswell, these limitations were possible weaknesses with the study that were useful and impacted replication of this study. These limitations included limited diversity in participant demographics, personal researcher bias, and study timeline limitations.

Having similar participant demographics in a study can be a limitation for several reasons. While it may seem beneficial in some respects, such as reducing potential sources of variation, it can also introduce biases and hinder the generalizability of the study's findings. When a study includes a narrow range of participant demographics, the findings may not be applicable to a broader population. This limits the generalizability of the results and makes it challenging to draw conclusions that apply to a more diverse group. My study consisted of all female participants, and the majority of them identified as white, non-Hispanic. Additionally, study with a homogeneous sample might unintentionally select for participants who share certain characteristics, experiences, or beliefs. This can introduce selection bias, which means that the study's results may not accurately represent the broader population. The researcher used a convenience sample of participants, meaning they showed prior interest in engaging in the intervention.

Throughout the research process, some personal biases may have been present, as the researcher acted as a leader, facilitator, participant, and researcher. During the time of the study and presently the researcher worked at one of the middle schools in the district where she resides. The researcher had a deep understanding of SLPs' scope of practice, workload, and their concerns related to additional responsibilities added to their scope of practice. Although the researcher was the only SLP at the employed school, the researcher had relationships and interactions with the other SLPs in the district as the SLP Chairperson. The researcher experienced duplicity in my current position as I have many different hats to wear. As a school based SLP, the researcher was often seen as a teacher and a communication specialist, so depending on the hat, the researcher felt as both an insider and outsider during the study. As the SLP Chairperson, the researcher had the unique opportunity to keep boots on the ground and advocate on behalf of SLP colleagues, while also gaining administrative knowledge and perspectives at the district level.

When conducting a study, there may be various limitations related to the timeline or timeframe in which the research is conducted. These limitations can impact the scope, validity, and generalizability of the study's findings. This study was conducted during the spring semester, which resulted in fewer instructional days due to scheduled school breaks and district testing. Additionally, IRB approval by both the district and the university took longer than the researcher anticipated, so that pushed back the date of the study initiation. Overall, because of the nature of the innovation, participants noted that they would have preferred to begin the study at the end of summer or as soon as the school year started.

Implications for Practice

Systematically designed IPE/IPC frameworks and ongoing job-embedded professional development communities can help education professionals develop interprofessional competencies including values and ethics, roles and responsibilities, interprofessional communication, and teams and teamwork. Since research denoting the effective ways to integrate IPE and IPC activities and outputs into the professional development of practicing educators is sparse, this paper describes a successful framework for doing so in the K-8 public school setting. One important implication for school districts and administrators to consider are the possible systemic barriers that are inhibiting diverse groups of professionals from engaging in more collaborative practices. For example, inflexible scheduling policies and instructional practices imposed upon teachers continued to create barriers for participants in the CLASS Therapy Model. However, by implementing an IPE/ICP framework that is embedded within the education professionals school day and provides a flexible method for engagement increases the likelihood that they will implement and sustain new practices like classroom-based service delivery.

Another implication for practice could include increasing the length of the ICoP so that participants had more opportunities to implement and reflect on the different service delivery models. During the first four weeks of the ICoP, SLPs and teachers were systematically guided through the CLASS Therapy Model action steps which took them through the process of initiating a collaborative relationship to creating and conducting a collaborative lesson using a classroom-based service delivery model. In the second half of the ICoP, the facilitator scaffolded their learning by providing participants with tools

to reflect and modify their collaborative lessons. If given more time, I would have liked to engage the participants in further iterations of the process using a different classroom-based service delivery model. Then, once participants had adequate time to conduct lessons in two to three different classroom-based service delivery models, participants could reflect on each of the models to make more informed decisions about their service delivery approaches.

Implications for Future Research

In the future, I plan to explore the development and use of additional IPC assessment tools aligned to the CLASS Therapy Model framework, with a focus on creating tools to measure students' language and literacy outcomes during the use of different classroom-based service delivery models. Additionally, I plan to expand the interprofessional community of practice to more stakeholders in the school district, including other teachers and related service providers like occupational therapists, reading interventionists, English Language Development (ELD) teachers, to name a few. Lastly, I would like to use the CLASS Therapy Model as a framework for building interprofessional collaborative practices among teachers and related service providers to address other school processes like MTSS referrals and the implementation of Augmented Alternative Communication (AAC) and Assistive Technology (AT) supports for students in the Pk-8 school setting.

Conclusion

This study provides further evidence for the need to develop and implement ongoing support for diverse education professionals through experiential professional development opportunities that focus on interprofessional collaboration and inclusive

instructional approaches. Evidence supports that ICP between SLPs and teachers leads to increased knowledge of roles and responsibilities and team functioning among professionals that results in improved student outcomes. With the high variety of education professionals working with students with disabilities, the CLASS Therapy Model framework can be incorporated into ongoing professional development for all members of the school team, not just those focusing on the language and literacy skills of students with disabilities. The CLASS Therapy Model has the potential to bridge the theory to research and research to practice gap by increasing the knowledge, self-efficacy, and capacity of diverse professionals to explore new instructional and service delivery models that lead to more equitable learning opportunities for all students. More inclusive instructional and therapeutic services can become more of the norm within schools, if professionals are given the framework, opportunities, and ongoing support needed to achieve ICP. This requires collaborative leaders within school districts to take an in-depth look at their current practices to determine how they are supporting or possibly preventing diverse professionals from engaging and working collaboratively with each other at the ground level.

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APPENDIX A

CLASS THERAPY MODEL PARTICIPANT WORKBOOK

CLASS THERAPY MODEL WORKBOOK

Creating SLP and Teacher Partnerships to Implement Interprofessional Practices

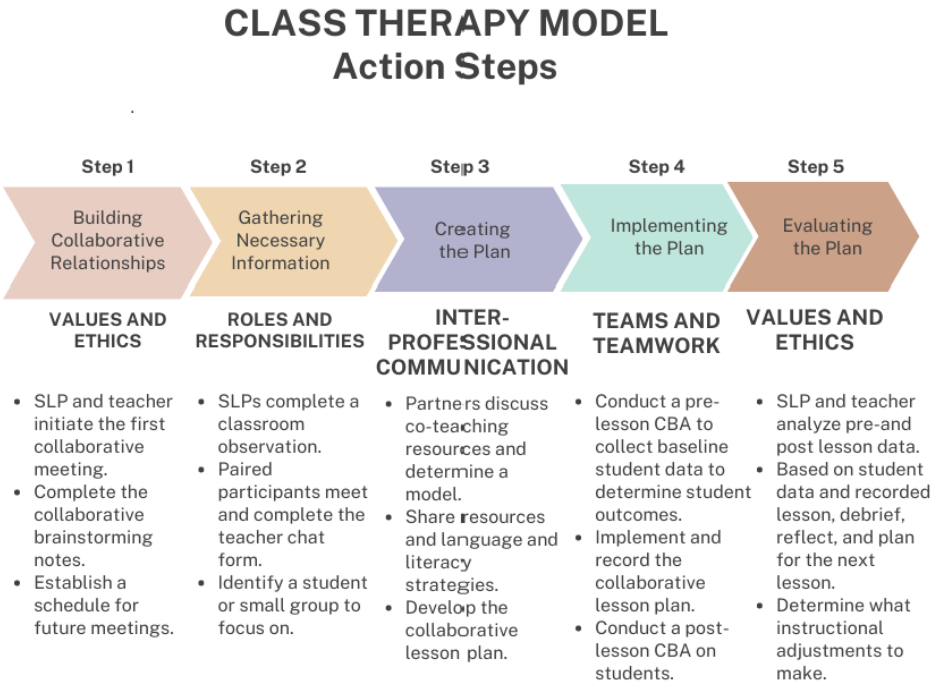
Rebecca Miller, Arizona State University, Master's in Communication Disorders
Elementary and Secondary in-service Teachers and SLPs

Table of Contents

Google Classroom Link
Class Code: g2hk3dv

Description

The CLASS Therapy Model is a five-step framework designed to support teachers and SLPs in developing and sustaining interprofessional practices by engaging in collaborative service delivery models in their school setting. Over the next eight weeks, you will be guided through five action steps supporting your implementation of aligning classroom curriculum and students' individual language and literacy IEP goals through an inclusive classroom-based service delivery model. Putting these practices into action will enable you to provide equitable learning experiences for students with IEPs struggling to learn within an inclusive classroom setting. This interactive workbook is designed to help you prepare and reflect upon each action step within the CLASS Therapy Model. In your own copy of this Google document, you will respond to prompts by writing directly in the logbook entries provided. There are also hyperlinks with additional resources and examples to support your learning. Each week during the interprofessional community of practice (ICoP), your interprofessional education (IPE) facilitator will provide opportunities for problem-solving, discussion, and feedback guided by information provided on participants' logbook entries. The figure below outlines the tasks in each action step and the Interprofessional Education Competencies you will be implementing.



Action Step 1: Building Collaborative Relationships

1a. Initial Collaborative Meeting. Following the IPE workshop, the SLP and teacher pairs will schedule and conduct the initial planning meeting from February 27th to March 3rd. During this meeting, the paired participants will complete the brainstorming notes to review the shared teacher and SLP caseloads and establish a schedule for future collaboration meetings. Below is a sample invitation letter to schedule the initial collaborative meeting with teachers.

Dear (Teacher),

I would like to confirm our initial collaborative meeting regarding _____ (student(s)), scheduled for _____ (date) at _____ (time). We will need approximately 45 minutes to share our communication and academic concerns and complete the collaborative brainstorming notes.

I will be prepared to discuss previously established speech and language goals and/or assessment information. It would be helpful if you could bring with you information about _____ as you observe this student(s) in your classroom. Areas to consider may include the student(s)' ability to follow the classroom routine and work independently, to use oral and written language, to manage specific academic subjects, and to interact with peers and adults.

I am looking forward to our meeting so that we can work together to increase the effectiveness of our interprofessional collaborative program.

Sincerely,

Speech-Language Pathologist

1b. ICP Core Competency: Values and Ethics

Work with individuals of other professions to maintain a climate of mutual respect and shared values. (Values and Ethics of Interprofessional Practice).

1c. Participants will independently reflect and respond to the prompts in the Action Step 1 Logbook entry.

Action Step 1: Building Collaborative Relationships

Please answer the following questions regarding the weekly activities with brief bullet points to be discussed during ICoP meeting:

	I participated in the activity	What new insights did you gain?	What did you change in your actual practice?	Which action step 1 resources were the most supportive?	What changes or additions would you make?
Reviewed Action Step 1 Google Slides	☐ yes ☐ no Time Spent:				
Completion of the Initial Collaborative Meeting	☐ yes ☐ no Time Spent:				
Completion of the Collaborative Brainstorming Notes	☐ yes ☐ no Time Spent:				

1 d. Additional Resources:
Building Collaborative Relationships Google Slides
Teacher Observation of the Classroom
Survey of Teacher's Awareness and Understanding of SLP Services

Action Step 2: Gathering Necessary Information

2a. Observations and Data Collection. During the week of action step 2, SLP participants will conduct a classroom observation to gather information about the classroom environment and students with speech and language goals on their IEP in the classroom. Paired participants will attend the scheduled collaboration meeting to review classroom observation notes and complete the teacher chat form. In response to student's strengths and needs, the paired participant teams will identify areas in the curriculum and determine possible underlying language issues that can be addressed in the collaborative lesson plan. Paired participants will discuss and identify agreed-upon language and literacy targets according to shared student data sources, including observations, work samples, grades, teacher report, student report, parent report, case history, medical reports, and state and district assessments. By collaboratively expressing and documenting concerns for identified students, team members will begin to define their role in the co-teaching instructional process.

2b. ICP Core Competency: Roles and Responsibilities

Use the knowledge of one's own role and those of other professions to assess and address the educational needs of students appropriately and to promote and advance the education of populations (Roles and Responsibilities).

2c. Logbook Entry. Participants will independently reflect and respond to the prompts in the Action Step 2 Logbook Entry.

2d. Additional Resources:
Gathering Necessary Information Google Slides
Collaborative Student Data Form
Language-Based Curriculum Analysis

2e. ICoP Meeting 1. As you gather information from others about your student(s), engage in skills within *ICP Core Competency Values and Ethics* by actively listening, asking questions to help others problem-solve, and keeping the conversation focused on accurate and descriptive student-centered statements rather than those that are from individual disciplines. The IPE facilitator will be responsible for facilitating the meeting and completing the Meeting 1 ICoP Facilitator Checklist.

Individual's Role	Role of ICP Teammates	ICoP Facilitator's Role

Discuss student data analysis with all members. Share student(s) strengths and particular areas of concern. Share data from brainstorming notes, observations, or teacher chat forms. Maintain competence in my profession appropriate to my scope of practice or training.	Respect the unique cultures, values, and expertise of other school professions. Engage professionals from other disciplines to develop strategies to meet specific student needs. Use all team members' unique and complementary abilities to optimize student instruction.	Schedule, conduct, and record the meeting on Google Meets. Set norms for the meeting. Facilitate the meeting by directing the ICoP members to complete items on your ICoP Facilitator Checklist 1. Keep track of time.

Action Step 3: Creating the Plan

3a. Design the Lesson Plan and Pre/Post Outcome Measures. During the week of action step 3, paired participants will attend the scheduled collaboration meeting to develop the collaborative lesson plan using a classroom-based service delivery model. Paired participants will begin developing or selecting a pre-lesson curriculum-based assessment for the targeted language and literacy skills (i.e., teacher/SLP co-created curriculum-based assessment, existing district curriculum-based assessment, school or district progress monitoring assessments). Then, they will use the collaborative lesson plan template to identify the target instructional goals, service delivery model, roles and responsibilities for each team member, and which strategies and instructional content will

be implemented during the plan. The team will then schedule and implement the collaborative lesson plan and audio record the lesson for later review.

3b. ICP Core Competency: Interprofessional Communication

Communicate with administrators, students, families, communities, and other education professionals in the education and health fields responsively and responsibly that supports a team approach to the promotion and maintenance of education and the prevention and treatment of learning and language deficits/disorders (Interprofessional Communication).

3c. Participants will independently reflect and respond to the prompts in the Action Step 3 Logbook Entry.

3d. Additional Resources:
Collaborative Service Delivery Models Google Slide

Action Step 4: Implementing the Plan

4a. Observations and Data Collection. During the week of action step 4, paired participants will implement and record the collaborative lesson to reflect on and review during the following week. You may film the entire lesson, but keep in mind you will only be responsible for sharing a ten-minute highlight video to share with the ICoP members and facilitator. Watch the video *Tips for Using Video to Improve Teaching* for some great tips on how to film in the classroom. After you audio record or film the lesson, secure the content and upload it to the Google Classroom Action Step 4 Google folder.

4b. ICP Core Competency: Teams and Teamwork

Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate student-centered education programs and policies that are academically relevant, timely, efficient, effective, and equitable (Teams and Teamwork).

4c. Participants will independently reflect and respond to the prompts in the Action Step 4 Logbook Entry.

4d. Additional Resources:
Collaborative Progress Monitoring Google Slides

4e. ICoP Meeting 2. As you gather information from others about your student(s), engage in skills within *ICP Core Competency Roles and Responsibilities* by actively listening, asking questions to help others problem-solve, and keeping the conversation focused on accurate and descriptive student-centered statements rather than those that are from individual disciplines. The IPE facilitator will be responsible for facilitating the meeting and completing the Meeting 2 ICoP Facilitator Checklist.

Individual's Role	**Role of ICP Teammates**	**ICoP Facilitator's Role**

Use the SPARK model for quality feedback to teams: Specific: Comments are linked to a discrete statement in the lesson. Prescriptive: Prescriptive feedback offers a solution or strategy to improve the work, including possible revisions or links to helpful resources or examples. Actionable: When the feedback is read, it leaves the peer knowing what steps to take for improvement. Referenced: The feedback directly references the task criteria, requirements, or target skills. Kind: It is mandatory that all comments be framed in a kind, supportive way.	Share a draft of the collaborative lesson plan. Take notes regarding feedback or provide access to your workbook on Google Classroom so your peers can comment. Review feedback and request any clarifications.	Schedule, conduct, and record the meeting on Google Meets. Set norms for the meeting. Facilitate the meeting by directing the ICoP members to complete items on your ICoP Facilitator Checklist 1. Keep track of time.

Action Step 5: Evaluating the Plan

5a. Reviewing and Revising the Plan. During the week of action step 5, paired participants will attend the scheduled collaboration meeting to implement the post-lesson curriculum-based assessment and review and revise the plan. Following each collaborative lesson, the SLP and teacher should evaluate the effectiveness of the collaborative lesson plan. The Appraisal of Team Collaboration Tool fosters open communication among team members around developing and executing cohesive, educationally relevant education and intervention plans. The tool offers each team member the opportunity to objectively provide feedback about their impression of how the team's collaboration is going. All team members are asked to independently indicate their level of agreement with statements in six areas critical to successful collaboration: team membership, student goals, planning and decision-making, team processes, team communication, and results.

5b. ICP Core Competency: Values and Ethics

Work with individuals of other professions to maintain a climate of mutual respect and shared values. (Values and Ethics of Interprofessional Practice).

5c. Participants will independently reflect and respond to the prompts in the Action Step 5 Logbook Entry.

5d. Additional Resources:
Collaborative Data Analysis Google Slide

Maintaining the Collaboration: Collaborative Lesson 2

6a. Subsequent Lessons. During week six, the paired participants will continue to review, revise, implement, and reflect on the subsequent collaborative lesson plans.

6b. ICP Core Competency: Roles and Responsibilities

Use the knowledge of one's own role and those of other professions to assess and address the educational needs of students appropriately and to promote and advance the education of populations (Roles and Responsibilities).

6c. Participants will independently reflect and respond to the prompts in the Collaborative Lesson 2 Logbook Entry.

6d. ICoP Meeting 3. As you gather information from others about your student(s), engage in skills within *ICP Core Competency Interprofessional Communication* by actively listening, asking questions to help others problem-solve, and keeping the conversation focused on accurate and descriptive student-centered statements rather than those that are from individual disciplines. The IPE facilitator will be responsible for facilitating the meeting and completing the Meeting 3 ICoP Facilitator Checklist.

Individual's Role	**Role of ICP Teammates**	**ICoP Facilitator's Role**
Have your completed Appraisal of Team Collaboration Tool available to refer to as you debrief. Discuss questions and prompts led by the ICoP facilitator.	Have you completed the Appraisal of Team Collaboration Tool as you prepare to share feedback with your peers? Discuss questions and prompts led by the ICoP facilitator.	Schedule, conduct, and record the meeting on Google Meets. Set norms for the meeting. Facilitate the meeting by directing the ICoP members to complete items on your ICoP Facilitator Checklist 1. Keep track of time.

Maintaining the Collaboration: Collaborative Lesson 3

7a. Subsequent Lessons. During week seven, the paired participants will continue to review, revise, implement, and reflect on the subsequent collaborative lesson plans.

7b. ICP Core Competency: Interprofessional Communication

Communicate with administrators, students, families, communities, and other education professionals in the education field responsively and responsibly that supports a team approach to the promotion and maintenance of education and the prevention and treatment of learning and language disorders (Interprofessional Communication).

7c. Participants will independently reflect and respond to the prompts in the Collaborative Lesson 3 Logbook Entry.

Maintaining the Collaboration: Collaborative Lesson 4

8a. Subsequent Lessons. During week eight, the paired participants will continue to review, revise, implement, and reflect on the subsequent collaborative lesson plans. Complete an updated Appraisal of Team Collaboration Tool.

8b. ICP Core Competency: Teams and Teamwork

Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate student-centered education programs and policies that are academically relevant, timely, efficient, effective, and equitable (Teams and Teamwork).

8c. Participants will independently reflect and respond to the prompts in the Collaborative Lesson 4 Logbook Entry.

8d. ICoP Meeting 4. As you gather information from others about your student(s), engage in skills within *ICP Core Competency Teams and Teamwork* by actively listening, asking questions to help others problem-solve, and keeping the conversation focused on accurate and descriptive student-centered statements rather than those that are from individual disciplines. The IPE facilitator will be responsible for facilitating the meeting and completing the Meeting 4 ICoP Facilitator Checklist.

Individual's Role	**Role of ICP Teammates**	**ICoP Facilitator's Role**

Have your completed Appraisal of Team Collaboration Tool available to refer to as you debrief. Discuss questions and prompts led by the ICoP facilitator.	Have your completed Appraisal of the Team Collaboration Tool as you prepare to share feedback with your peers. Discuss questions and prompts led by the ICoP facilitator.	Schedule, conduct, and record the meeting on Google Meets. Set norms for the meeting. Facilitate the meeting by directing the ICoP members to complete items on your ICoP Facilitator Checklist 1. Keep track of time.

APPENDIX B

PRE/POST IPEC CORE COMPETENCY SURVEY

Introduction

My name is Rebecca Miller, and I am a doctoral student at the Mary Lou Fulton Teachers College at Arizona State University (ASU). I am conducting research regarding teacher and SLP collaborative practices at Tempe Elementary School District to be used to assess and design program requirements.

About

The following statements represent a proposed skill set for interprofessional collaborative practices. Your honest responses are appreciated and will remain anonymous. There are no foreseen risks for participating in the questionnaire, and it should take no more than 15 minutes to complete. Your participation is voluntary. You may choose not to answer any questions or stop participating at any time. Your responses will be kept confidential.

Questions and Concerns

If you have any questions concerning this study regarding interprofessional practices, please contact Rebecca Miller at beckyr@asu.edu or 480-332-7293. You may also contact Kathleen Puckett, Dissertation Chair, at Kathleen.Puckett@asu.edu or

1. To which gender identity do you most identify?

a. Male
b. Female
c. Transgender Male
d. Transgender Female
e. Gender non-conforming
f. Prefer not to disclose.

2. Which of the following best describes you?

a. Asian
b. Black or African American
c. Native American or Alaska Native
d. Native Hawaiian or Pacific Islander
e. White
f. Some Other Race
g. Two or More Races

3. Which of the following best describes your ethnicity?

a. Hispanic or Latino
b. Not Hispanic or Latino

4. What is your highest level of education?

a. bachelor's degree
b. Master's degree
c. Doctorate degree

5. How long have you been employed as a general education teacher, special education teacher, or speech-language pathologist?

a. Less than 4 years
b. 5-9 years
c. 10-14 years
d. 15-19 years
e. 20-24 years
f. 25-29 years
g. 30 or more years
6. How many years have you worked with students with language and

literacy disabilities?

a. Less than 4 years
b. 5-9 years
c. 10-14 years
d. 15-19 years
e. 20-24 years
f. 25-29 years
g. 30 or more years

7. For the 2022-223 academic year, I provided education services for

a. Preschool
a. Kindergarten
b. 1st-grade
c. 2nd-grade
d. 3rd-grade
e. 4th-grade
f. 5h-grade
g. 6th-grade
h. 7th-grade
i. 8th-grade
j. Grade levels Pk-5th
k. Grade levels K-5th
l. Grade levels K-8th
m. Grade levels 6th-8th
n. All Grade Levels

8. The number of students in my classroom or on my caseload for the 2022-23 academic year:

a. 1-10
b. 11-15
c. 16-21
d. 22-25+

9. The following special populations are represented in my classroom or caseload this school year (Select all that apply):

a. Autism Spectrum Disorder
b. Intellectual Disability
c. Multiple Disabilities
d. Other Health Impairment
e. Orthopedic Impairment
f. Speech Language Impairment
g. Specific Learning Disability
h. Other Developmental Disability

INSTRUCTIONS: Using the following 5-point Likert scale, please rate the items based on your experience in the education system. Each item is preceded by "I am able to…."		**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Values and Ethics Domain						
1.	Place the needs of students at the center of academic instruction and service delivery.	1	2	3	4	5
2.	Respect students' privacy while maintaining confidentiality in the delivery of team-based instruction.	1	2	3	4	5
3.	Embrace the diversity that characterizes students and the school team.	1	2	3	4	5

4.	Respect the unique cultures, values, and expertise of other school professions.	1	2	3	4	5
5.	Work in cooperation with students who receive special education services and teachers who provide special education services.	1	2	3	4	5
6.	Develop a trusting relationship with students, families, and other team members.	1	2	3	4	5
7.	Demonstrate high standards of ethical conduct and quality of instruction in my contributions to collaborative student instruction.	1	2	3	4	5
8.	Manage ethical dilemmas specific to interprofessional student-centered instructional situations.	1	2	3	4	5
9.	Act with honesty and integrity in relationships with students, families, and other team members.	1	2	3	4	5
10.	Maintain competence in my profession appropriate to my scope of practice or training.	1	2	3	4	5
Roles and Responsibilities Domain						
11.	Communicate my roles and responsibilities to	1	2	3	4	5

	students, families, and other school professionals.					
12.	Recognize my limitations in skills, knowledge, and abilities.	1	2	3	4	5
13.	Engage professionals from other disciplines to develop strategies to meet specific student needs.	1	2	3	4	5
14.	Explain the roles and responsibilities of other discipline professionals and how the team works together to provide student instruction.	1	2	3	4	5
15.	Use the full scope of knowledge, skills, and abilities of available school professionals to provide student instruction that is timely, efficient, effective, and equitable.	1	2	3	4	5
16.	Communicate with team members to clarify each member’s responsibility in executing components of an IEP or intervention plan.	1	2	3	4	5
17.	Establish interprofessional relationships to improve education and advance professional learning.	1	2	3	4	5
18.	Engage in continuous professional and interprofessional development to enhance team performance.	1	2	3	4	5
19.	Use all team members' unique and complementary abilities	1	2	3	4	5

	to optimize student instruction.					
Interprofessional Communication Domain						
20.	Choose effective communication tools and techniques to facilitate discussions and interactions that enhance team function.	1	2	3	4	5
21.	Communicate information with students, families, and education team members in an understandable form.	1	2	3	4	5
22.	Avoid discipline-specific terminology when possible.	1	2	3	4	5
23.	Express my knowledge and opinions to team members involved in student instruction with clarity and respect.	1	2	3	4	5
24.	Listen actively and encourage the ideas and opinions of other team members.	1	2	3	4	5
25.	Give timely, sensitive feedback to others about their performance on the team.	1	2	3	4	5
26.	Respond respectfully to feedback from others on my school team.	1	2	3	4	5
27.	Use appropriate, respectful language in a difficult situation, such as interprofessional conflict.	1	2	3	4	5
28.	Recognize how my experience and expertise contribute to communication, conflict resolution, and	1	2	3	4	5

	interprofessional working relationships.					
29.	Recognize how my position in the hierarchy of the school team contributes to communication, conflict resolution, and interprofessional working relationships.	1	2	3	4	5
30.	Consistently communicate the importance of teamwork in student-centered instruction.	1	2	3	4	5
Teams and Teamwork Domain						
31.	Describe the process of team development.	1	2	3	4	5
32.	Describe the roles and practices of an effective school team.	1	2	3	4	5
33.	Engage other school professionals in shared problem-solving appropriate to the specific instructional settings.	1	2	3	4	5
34.	Inform instructional decisions by integrating the knowledge and experience of other professions appropriate to the school situation.	1	2	3	4	5
35.	Apply leadership practices that support collaborative practice and team effectiveness.	1	2	3	4	5
36.	Engage with others to constructively manage disagreements between school professionals, students, and families.	1	2	3	4	5

37.	Share accountability with other professions, students, and parents for outcomes relevant to prevention and education.	1	2	3	4	5
38.	Reflect on my individual performance for my improvement.	1	2	3	4	5
39.	Reflect on my school team's performance for my team's improvement.	1	2	3	4	5
40.	Use strategies that will improve the effectiveness of interprofessional teamwork and team-based instruction.	1	2	3	4	5
41.	Use available evidence to inform effective teamwork and team-based practices.	1	2	3	4	5
42.	Perform effectively on teams and in different team roles in various settings.	1	2	3	4	5

APPENDIX C

CLASS THERAPY MODEL MEETING SCHEDULE

Week	Type	Location
2/27/2023-3/3/2023	SLP/Teacher	School Site
3/6/2023-3/10/2023	ICoP Group	Virtual
3/20/2023-3/24/2023	SLP/Teacher	School Site
3/27/2023-3/31/2023	ICoP Group	Virtual
4/3/2023-4/7/2023	SLP/Teacher	School Site
4/10/2023-4/14/2023	ICoP Group	Virtual
4/17/2023-4/21/2023	SLP/Teacher	School Site
4/25/2023-5/28/2023	ICoP Group	Virtual

APPENDIX D

ICOP FACILITATOR CHECKLIST EXAMPLE

ICoP Facilitator Checklist Meeting 1

Friday, March 10, 2023, 2-3 PM

Getting Started (10 minutes)		
Welcome team members: **Completed**		
-Address housekeeping issues (notify members about Google Meets recording, time allotted.)	Y	N
-Ensure team members have proper materials (Brainstorming notes, observations, collaborative student data form, and language-based curriculum analysis.)	Y	N
Set group norms and establish a positive environment by reminders of the need to:		
-Speak openly and use tentative language when making suggestions.	Y	N
-Listen actively to peers and ask questions that elicit elaborate responses.	Y	N
-Respect contributions from each team member.	Y	N
-Use solutions-based language by making accurate and descriptive statements that are student-focused.	Y	N
Data Collection Review (50 minutes)		
While reviewing the data collection materials have paired teams share at one time:	Y	N
-Discuss the prerequisite knowledge and skills needed for your target student(s) to participate in the lesson and your initial thoughts about differentiating for varied student levels.	Y	N
-Ask other team members to provide feedback and ask any clarifying questions about the data collection process.	Y	N
Once each team member has shared and received feedback, please thank all team members for their contributions and conclude the ICoP Meeting.	Y	N

APPENDIX E

QUANTITATIVE DATA COLLECTION SHEET

Week	Logbook Entry	Completed	Artifact	Completed	ICoP Discussion Attended	Completed
2/27-3/3	Logbook 1		Brainstorm Notes			
3/6-3/10	Logbook 2		Collaborative Observation/Te		3/10/2023	Yes
3/20-3/24	Logbook 3		Pre-Lesson Formative Asses			
3/27-3/31	Logbook 4		Collaborative Lesson Plan		3/31/2023	Yes
4/3-4/7	Logbook 5		Post-Lesson Formative Asse			
4/10-4/14	Logbook 3.2		Collaborative Lesson Plan 2		4/14/2023	
4/17-4/21	Logbook 4.2		Collaborative Lesson Plan 3			
4/24-4/28	Logbook 5.2		Collaborative Lesson Plan 4		4/28/2023	

APPENDIX F

EXAMPLE LOGBOOK ENTRY

Action Step 1: Building Collaborative Relationships

Please answer the following questions regarding the weekly activities with brief bullet points to be discussed during ICoP meeting:

	I participated in the activity.	What new insights did you gain?	What did you change in your actual practice?	Which action step 1 resources were the most supportive?	What changes or additions would you make?
Reviewed Action Step 1 Google Slides	☐ yes ☐ no Time Spent:				
Completion of the Initial Collaborative Meeting	☐ yes ☐ no Time Spent:				
Completion of the Collaborative Brainstorming Notes	☐ yes ☐ no Time Spent:				

APPENDIX G

COLLABORATIVE LESSON PLAN EXAMPLE

Collaborative Lesson Plan Overview

Date: 4/18, 4/20, 4/25, 4/27 1st Period 8:20-9:07	**Course/Grade**: 6-8 Self-Contained

Learning Target (essential question/skill): **1. Grammar: 6.L.1** 2. Vocabulary: 6.L.4 3a. Comprehension WH Questions: 6.SL.1 3b. Main Idea/Detail Summarizing: 6.RL.2 3c. Inferencing: 6.RL.1 3d. **Sequencing/Retell 6.SL.4** 4. Multistep Directions: 6.SL.1	**Objectives (statements): Students will be able to…** 1. Write responses using proper capitalization and punctuation. 2. Identify new vocabulary words, and decode them after review. 3. Answer comprehension questions from the story a. Finger follow b. Tricky word identification c. Echo reading d. Orally decode (read aloud) passage e. Complete comprehension questions f. (optional) **Complete story grammar worksheet using a grammatically correct sentence. L.1** g. (optional) **Utilize story grammar worksheet in order to sequence/retell the story. SL.4** **h. Increase academic/literacy vocabulary (story grammar vocabulary: character, setting, initiating event, etc.)**

*Focus: Verbal expression/ **syntax**, **semantics**, reading decoding and comprehension, auditory comprehension*	Greeting | Good Things | Story Grammar Components 4/18 1st: story grammar components (knowledge/vocabulary) 4/18 2nd: Sentence formation story grammar 4/20 Peer corrections-grammar 4/20 3rd: sentence stems/ computerized revisions

ACTIVITY	**Approach:** PT Parallel Teach	**Students:**
4/18 1st: story grammar components (knowledge/ vocabulary) 4/18 2nd: Sentence formation story grammar 4/20 Peer corrections-grammar 4/20 3rd: sentence stems/ computerized revisions	**SLP**-Lead **Teacher**-Assist **IA** 1:1 Student 2 **IA** 1:1 Student 3	**Student 1 (articulation only: L and CH at conversational level)** **Student 2**: 1. Student will improve his functional communication by using self-regulation strategies (Examples per SLP, OT, & Parent: deep breathing, counting to 10, weighted or compression vest, STEM/movement breaks, brushing) in 1 out of 5 opportunities, given a closed set of choices and a direct prompt, as measured by SLP/SLPA data collection reported quarterly. 8.SL. 2. In a 30-minute period, student will exhibit less than 6 off topic comments/behaviors given verbal, gestural, and visual cues in 3 out of 4 sessions as measured by SLP/SLPA data collection reported quarterly. (AZ Academic Standard, LS E1-4) **Student 3:** 1. Student will demonstrate improved listening comprehension of verbally presented short stories up to three paragraphs, by answering related literal and inferential questions with 75% accuracy when provided a copy of the story to refer to and 1-2 cues measured through quarterly reports and SLP/A monthly data log. AZ Academic Standard 7.SL.1 &7 RL.1 AZ 2. Student will recall information from a verbally presented short story, earning 3 points in 3/4 trials, by naming characters (1 point), setting (1 point), problem (1 point), plan (1 point), and resolution (1 point), as measured quarterly by the SLP/SLPA using a data log and quarterly reports. (CCSS L.4.4) 3. Student will make an inference and describe a visual clue that contributes to his inference, based on presented and incidental social scenarios or inferential texts/picture scenes on 4/5 (80%) opportunities provided minimal verbal cues as measured through quarterly reports, as documented by the SLP/A. 6.RL.1 **Student 4:** 1. Student will demonstrate improved expressive language by showing greater proficiency and functional use of the targeted communication skill (retelling a story, a personal experience, or explain how to perform a task, using sequential terminology (first, next, then, finally) with 80% accuracy, given visual and verbal cues, as measured quarterly using expressive language frequency charts, as documented by the SLP/A. 6.SL.4 2. Student will demonstrate understanding of irregular past tense verbs by forming grammatically correct sentences (i.e., run/ran) with 80% accuracy given minimal cues as measured and documented by SLP/SLPA data collection reported quarterly. (AZ Academic Standard LS-3) **Student 5:** 1. Student will demonstrate improved expressive language by showing greater proficiency and functional use of the targeted communication skill (retelling a story, a personal experience, or explain how to perform a task, using sequential terminology (first, next, then, finally) with 75% accuracy, given visual support and utilizing note taking strategies, as measured through quarterly reports, as documented by the SLP/A. 6.SL.4 2. Student will make an inference and describe a visual clue that contributes to his inference, based on presented and incidental social scenarios on 3/5 (60%) opportunities provided minimal verbal cues as measured through quarterly reports, as documented by the SLP/A. 6.RL.1 **Student 6:** 1. Student will recall information from a verbally presented short story, earning 3 points in 3/4 trials, by naming characters (1 point), setting (1 point), problem/plan (1 point), internal response (1 point), and resolution (1 point), when provided a graphic organizer and mod cues as measured through quarterly reports and documented by the SLP/SLPA. (High Academic Standards SL.1) 2. Student will define story grammar components, earning 4 points in 3/4 trials, by defining: characters (1 point), setting (1 point), problem/plan (1 point), internal response (1 point), and resolution (1 point), when provided a graphic organizer and mod cues as measured through quarterly reports and documented by the SLP/SLPA. (High Academic Standards SL.4) **Student 7: (pause- take a breath, start again** 1. Student will use AAC device to participate in highly structured classroom/school activities by answering numerical questions, and/or activities that are highly structured/ use pre-formatted texts pertaining to himself and/or general academic information, given mod-max cues with 70% accuracy over 2 successive trials, as measured using quarterly reports, and documented by SPED Teacher & SLP/A. (AZ Academic Standard LS3) 2. Student will demonstrate improved intelligibility of speech by A. decreasing speech rate (leaving spaces between words) and B. producing every syllable in a 1-3 syllable word during structured activities when provided max cues (visual/verbal models, feedback, and repeated opportunities) and multiple attempts with 75% accuracy, as measured quarterly, though quarterly reports and SLP-A data log. (Arizona Academic Standards AZ Academic Standards SL.4) **Student 8:** 1. Student will recall information from a verbally presented story earning 3 points in 3/5 trials, by naming characters (1 point), setting (1 point), problem/plan (1 point), setting (1 point), problem/plan (1 point), and resolution (1 point), as measured quarterly by the SLP/A using data log and quarterly reports. (CCSS L.4.4) 2. Student will demonstrate improved listening comprehension of verbally presented short stories up to 3 paragraphs, by answering related literal questions with 75% accuracy when provided a copy of the story to refer to and min cues measured by quarterly reports and SLP/A monthly data log. (AZ Academic Standards 7.SL.1 &7 RL.1 AZ) **Student 9:** 1. Student will produce a complete sentence (subject+verb+object) to describe a visual in 80% of opportunities as measured by SLP/A data collection and quarterly reports. 2. Student will comprehend information and then restate/summarize the information with appropriate sequencing, vocabulary, and grammar/syntax with 60% accuracy when provided external aids and no more than 3 attempts as measured by SLP/A data collection and quarterly reports.

** PT= splitting the class so that you can differentiate instruction (high group, low group)*
** PT = Parallel Teach, ST = Station Teach, OTOS = On Teach, One Assist, TT = Team Teach*

Reflection on the delivery of instruction (identify students in need of remediation/acceleration based on a key assessment):

APPENDIX H

POST-INNOVATION SEMI-STRUCTURED INTERVIEW

1. What classroom-based/co-teaching service delivery models are you currently using? When, where, with whom?

2. Are you using these service delivery models for specific grade levels, groups of students (i.e., ELL, SLI, gifted), content areas (reading/writing, math, social studies, science, electives), or classroom curricular units (science lab, wax museum, social skills)?

3. How are you collaborating with other professionals (SLPs/teachers) to meet the needs of students on your caseload?

4. How has that been working? In terms of collaboration, what is working or not working?

5. Tell me about your communication with colleagues, how do you communicate with other professionals in regard to student needs (i.e., academic performance, social/emotional behaviors, IEP goals)?

6. What changes have you made to increasing collaboration and different service delivery/co-teaching models during instruction in the last few weeks as a result of participation in the ICoP?

7. Do you feel, and to what extent, has the CLASS Therapy Model Action Steps been useful for implementing classroom-based/co-teaching service delivery models?

8. How can the ICoP help you, or continue to support you in the use of the CLASS Therapy Model framework more often?

9. Is there anything else you would like to share?

APPENDIX I

PARTICIPANT RECRUITMENT AND CONSENT LETTER

Dear Colleague:

My name is Rebecca Miller, and I am a doctoral student at the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University (ASU). I am working under the direction of Dr. Kathleen Puckett, a faculty member at MLFTC. This research aims to identify and evaluate a two-hour interprofessional education workshop and an eight-week interprofessional Community of Practice (ICoP), coined the Collaborative Language and Speech Services (CLASS) Therapy Model, designed to build shared knowledge and collective implementation of interprofessional practices among teachers and SLPs in the public school system. Interprofessional learning outcomes will focus on kindergarten to eighth-grade teachers, and SLPs building shared knowledge of each other's professional roles and responsibilities, developing communication and team-building skills, and creating and implementing shared treatment plans for students with language and literacy needs (Pinto Zipp et al., 2014; Prelock & Apel, 2013; Zraick et al., 2014).

The study will be for ten weeks beginning on January 30, 2023. Participants will first answer a 42-item Google form survey and provide demographic information about thoughts and feelings related to interprofessional collaborative core competencies (15 minutes). Professional learning will be conducted for two hours in-person at the Tempe Elementary School District or online via Google Meets for pre-intervention training involving interprofessional education and practice (120 minutes). The participants will participate in an eight-week CLASS Therapy Model ICoP consisting of weekly artifact completion (30 minutes weekly) and weekly logbook completion, and participation in the ICoP (90 minutes weekly). Participants will also be asked to complete the post-intervention IPEC core competency survey through a Google form (15 minutes) and a post-intervention interview consisting of nine open-ended questions (not to exceed 30 minutes). The interview will be conducted over the phone or via a video conference on Google Meets and recorded for later transcription by the researcher. The total participation time in the intervention will not exceed 1,020 minutes or more than seventeen hours. A table outlining the research and participation timeline is provided below.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. Choosing not to participate in the study does not affect your standing in your school district. You must be 18 or older to participate in the study.

The benefit to participation is the opportunity for you to learn strategies and practices related to supporting professional collaborations, implementation of curriculum-based therapy, and expanding clinical expertise, which have the potential to benefit your students. There are no foreseeable risks or discomforts to your participation.

In the data collection tools, I will ask you to create a unique identifier known only to you to protect your confidentiality. To create this unique code, use the first three letters of your mother’s first name and the last four digits of your phone number. Thus, for example, if your mother’s name was Sarah and your phone number was (602) 543-6789,

your code would be Sar 6789. When we analyze the data, the unique identifier will allow us to match your post-intervention survey responses and your retrospective, pre-intervention responses.

For those randomly selected for the interviews, I will request you to audio record your responses. The interview will not be recorded without your permission. Please let me know if you do not want the interview to be recorded; you also can change your mind after the interview starts, just let me know. I will ask for your oral consent at the time of the interview for those selected.

Your responses will be confidential. Results from this study may be used in reports, presentations, or publications, but your name will not be used.

If you have any questions concerning the research study, please contact the research team – Dr. Kathleen Puckett at kathleen.puckett@asu.edu or Rebecca Miller at rebecca.miller@tempeschools.org, (480) 332-7293.

Thank you,

Rebecca Miller

Rebecca Miller, M.S., CCC-SLP, Doctoral Student

Dr. Kathleen Puckett, Professor, and Leader Scholar Community

Please let me know if you wish to be part of the study and let me audio record your responses by verbally indicating your consent.

If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact the Chair of Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.

APPENDIX J

TEMPE ELEMENTARY SCHOOL DISTRICT IRB APPROVAL

REQUEST TO CONDUCT RESEARCH IN TEMPE SCHOOL DISTRICT NO. 3

Send research request to:

Dr. James Driscoll
Superintendent
Tempe School District #3
3205 South Rural Road
Tempe, Arizona 85282

I wish to conduct a research project in Tempe School District #3 and request approval of the Research Committee to contact the appropriate personnel.

Rebecca Miller	8/31/2022
Name	*Date*
Speech-Language Pathologist	480-967-8933, x.4819
Position	*Phone*

Return Address: rebecca.miller@tempeschools.org

Research Project is for:

_____ ASU Class _____ MA Thesis __X__ Doctoral Dissertation
_____ Faculty Research _____ University Research _____ Other

Title and Purpose: The CLASS Therapy Model: Creating SLP and Teacher Partnerships Through Interprofessional Collaborative Practice

This is an innovation co-created by the researcher/SLP Lead and TD3 SLP team to provide systematic implementation of inclusive service delivery models for SLPs and teachers through a community of practice framework.

Approximate number and grade levels of pupils to be involved. No students will be directly involved

Approximate class time required per pupil: No students will be directly involved in the study.

Name of school(s) and what facilities will be needed: Connolly Middle School Speech Therapy Room

Deadline for completion: March 2023

Comments: Please see the attached letter with more details about the study.

Date 9/1/22 ***Approved*** X ***Disapproved*** _____

Signature: _____ ***Comments:*** _____

Dr. James Driscoll
Superintendent

Approval indicated on this form is intended to grant to the researcher the opportunity to contact the appropriate personnel to gain their approval and support of this project.

APPENDIX K

ARIZONA STATE UNIVERSITY IRB APPROVAL

ASU Knowledge Enterprise Development

EXEMPTION GRANTED

Kathleen Puckett
MLFTC: Teacher Preparation, Division of
-
Kathleen.Puckett@asu.edu

Dear Kathleen Puckett:

On 2/8/2023 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	The CLASS Therapy Model: Creating SLP and Teacher Partnerships Through Interprofessional Collaborative Practices in the K-8 School Setting
Investigator:	Kathleen Puckett
IRB ID:	STUDY00016527
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• 090722_R.Miller-Approved.pdf, Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc); • Participant Recruitment and Consent Letter.pdf, Category: Consent Form; • Participant Recruitment Script_2.7.2023.pdf, Category: Recruitment Materials; • Rebecca Miller_IRB Social Behavioral Protocol 2.7.2023.docx, Category: IRB Protocol; • supporting documents 02-01-2023.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2)(ii) Tests, surveys, interviews, or observation (low risk) on 2/8/2023.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

If any changes are made to the study, the IRB must be notified at research.integrity@asu.edu to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

Sincerely,

IRB Administrator

cc: Rebecca Miller
Rebecca Miller