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Collaborative Problem-Solving and Its Impact on Inclusive Practices, Confidence, and Beliefs of General Education Teachers in Colombia

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COLLABORATIVE PROBLEM-SOLVING AND ITS IMPACT ON INCLUSIVE PRACTICES, CONFIDENCE, AND BELIEFS OF GENERAL EDUCATION TEACHERS IN COLOMBIA

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Abstract

The purpose of this mixed-methods action research study was to examine the impact of a collaborative problem-solving process on the inclusive practices, confidence, and beliefs of general education teachers at a private bilingual school in Bogotá, Colombia. The problem of practice this research aims to address is the challenge teachers face in meeting the needs of a diverse student population with the increasing inclusion of exceptional learners in the general education classroom and a lack of preparation during teacher training programs. Grounded in Vygotsky's social constructivism and Wenger's communities of practice, this dissertation explores how teacher collaboration can lead to a more equitable and just education environment for exceptional learners in the general education classroom. Results indicate that engaging in this type of collaboration can lead to an increase in the use of high-quality inclusive practices, improved confidence in meeting the needs of exceptional learners, and reinforcement of positive attitudes toward inclusion. Recommendations for future research and an action plan are discussed.

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CHAPTER 1: INTRODUCTION

Over the past two decades, Colombia has been working to transform its education system to better meet the needs of learners, including exceptional learners and those in poor and underdeveloped areas. The federal government has set a goal to become the most educated country in Latin America by 2025 (Ministry of National Education, 2016). For nearly five decades, an internal conflict has had a defining impact on all aspects of social and economic development in Colombia, including education. The future of Colombia's economic and social environment depends on its ability to build a strong and inclusive education system and to provide the support necessary to its classroom teachers.

While Colombia spends more on its education system than most developed countries the results of this are not seen equitably across the population (Colombia Reports, 2019). The public education system is provided for free and is obligatory from age 6 to 15, with 95% of 6-14 year-olds enrolled in school, compared with 100% of the US's 6-14 year-olds enrolled in school (United States Education GPS, 2022). However, this number hides significant disparities when socioeconomic status, gender, and region are considered (Socio-Economic Database for Latin America and the Caribbean, 2022; Colombia Reports, 2019). Significant differences in higher education attainment can also be observed between the United States and Colombia, with 51% and 31% of 25-34 years holding a tertiary qualification in 2021, respectively (Colombia Education GPS, 2022). The results of the Programme for International Student Assessment (PISA) in 2018, show

that Colombia ranked second to last among the 37 OECD countries and the US ranked 9th (OECD, 2019).

The first steps toward more inclusive practices were taken in August 2017 when Decreto 1421 de 2017, Colombia's first inclusive education law, was passed. The decree aims to regulate the provision of educational services for exceptional learners through inclusive education in the areas of access, permanence, and quality from early childhood to high school. It requires the education sector to commit to gradually removing existing barriers to entry into education and to promote the development, learning, and participation of exceptional learners so they are equitable with other students (Ministry of Justice and Rights, 2017).

Even with these strides, lack of trained personnel and negative attitudes about inclusion have resulted in exceptional learners being "integrated" into the general education classroom without being included. The United Nations Committee on the Rights of Persons with Disabilities (UNCRPD, 2016) defines integration as "a process of placing persons with disabilities in existing mainstream educational institutions, as long as the former can adjust to the standardized requirements of such institutions," whereas inclusion

> is a process of systemic reform embodying changes and modifications in content, teaching methods, approaches, structures, and strategies in education to overcome barriers with a vision serving to provide all students of the relevant age range with an equitable and participatory learning experience and environment that best corresponds to their requirements and preferences. (Article 24, p. 4)

This distinction is critical, as placing exceptional learners in the general education classroom without also making structural changes, such as in curricular, teaching, and learning strategies, does not equate to inclusion (United Nations General Assembly, 2007).

Problem of Practice

An international push for more inclusive education practices, as seen by the 163 signatories to the Convention on the Rights of Persons with Disabilities (Article 24), means general education teachers are instructing more students with disabilities, but teacher training programs are doing little to prepare them (Rosenzweig, 2009). Rosenzweig (2009) concluded that no one explicitly shows teachers how to teach to students' many diverse needs and that because of time constraints, the number of academic standards, and a lack of support, "teachers are not only hesitant to implement individualized instruction, but they do not even know how to do so" (p. 14). In their Guidelines for Inclusion, the United Nations Educational, Scientific, and Cultural Organization (UNESCO; 2005) argued that teachers "are the key to supporting all aspects of the inclusion process" (p. 21), so we must begin with teachers as we aim to provide every child with a high-quality and appropriate education.

Several barriers to the successful implementation of inclusion have emerged from the literature. Fuchs (2010) reported the following teacher-identified barriers: a lack of support from administration in providing time for planning and collaboration, a lack of adequate professional development despite increasing expectations and responsibilities, a lack of support from special educators and support staff, and insufficient preparation in their preservice programs. Darrow (2009) separated perceived barriers into three

categories: 1) organizational barriers, which "relate to the ways schools and classrooms are structured, how goals for students with disabilities are defined, how instruction is delivered, and how classrooms are managed"; 2) attitudinal barriers, which "relate to the beliefs and attitudes that teachers may have about educational services for students with disabilities"; and 3) knowledge barriers, which "relate to the range of knowledge and skills that teachers need in order to provide effective services to students" (pp. 29-30). These perceived barriers are important to consider as teacher beliefs and attitudes impact any intervention's implementation and sustainability and can lead to difficulties in both the perceived and actual implementation of inclusive practices.

Theoretical Framework

My proposed study used Lev Vygotsky's social constructivism and Wenger's (1998) communities of practice (CoP) as theoretical frameworks for inclusion. While a variety of factors can influence teacher learning, "collaboration among teachers paves the way for the spread of effective teaching practices, improved outcomes for the students they teach, and the retention of the most accomplished teachers in high-needs schools" (Berry et al., 2009, p. 2).

As early as the 1920s, Vygotsky was interested in the psychology of children with disabilities and believed understanding how children with disabilities learn was "an indispensable aspect of the general theory of human development" (Kozulin, 1990, p. 195). Mallory and New (1994) discussed more contemporary interpretations of Vygotsky's work as emphasizing "the social and contextual bases of learning, the progressive qualities of human development, and the dynamic nature of cognitive processes as they occur within culturally mediated social activity" (p. 325). The

following three features of constructivist theory contribute to the understanding of inclusive education's aims and processes: (a) the importance of the sociocultural context of learning; (b) the role of social activity, including instruction, in development; and (c) the contributions of active learners to their own development (Vygotsky, 1993).

Vygotsky (1993) stressed the importance of the dynamic, sociocultural nature of disability for the methodology of inclusive education, stating that "education must cope not so much with these biological factors as with their social consequences" (p. 66). Included in Vygotsky's theory as it relates to special education practice was his call for "inclusion based on positive differentiation" (Gindis, 2003, p. 213). Early on, Vygotsky was a strong proponent for what is now known as the full inclusion model (Lipsky & Gartner, 1996). Later in his writings, he proposed that the learning environment should emphasize a change to teaching methods rather than school setting so students could be educated in the most inclusive social and cultural environment and where all staff would focus on the child's individual needs (Vygotsky, 1993).

The role social and cultural interactions play on learning as highlighted by social constructivism closely relates to the tenets of the CoP theory. Lave and Wenger (1991) argued that "learning does not rest with the individual but is a social process that is situated in a cultural and historical context" (Farnsworth et al., 2016, p. 140). Wenger (1998) continued to develop the CoP theory with the key assertion that learning occurs through our participation in multiple social practices, when we participate in collective learning through a shared purpose.

Mortier (2020) discussed how communities of practice as a "theoretical framework of knowledge, can address some of the persistent barriers to inclusive

education for students [with disabilities]" (p. 329). The CoP theory is defined by three facets: a joint enterprise (domain), mutual engagement (community), and a shared repertoire (practice) (Wenger, 1998). Mortier (2020) discussed four studies that examined the impact of communities of practice for inclusive education (Hunt et al., 2002, 2003, 2004; Mortier et al. 2009, 2010); "The outcomes [of these studies] showed higher levels of learning, increased social interaction and increased engagement of the students" (Mortier, 2020, p. 333). Kohler et al. (1997) found that teachers were more likely to change their instructional practices when collaborating with their peers than when working independently and that this change was sustained and even extended over time. Mortier (2020) asserted that

> A community of practice (a) provides an alternative to a traditional top-down approach to innovation, (b) allows space for uncertainty and trust, (c) closes the gap between espoused theory and theory in use about special expertise, and (d) dilutes the effects of power imbalances and competing priorities among parents and educators. Adopting this framework of fluid knowledge based on local narratives can help inclusion teams recognize the unique ways in which they can move their practice forward. (p. 329)

Thus, Mortier (2020) indicated the need to improve teacher practices and attitudes about inclusion via collaboration. The present study explored a collaborative approach through which to examine the impact on general education teachers' inclusive practices and attitudes in the private international school context. The proposed frameworks emphasize the sociocultural component of knowledge creation and capitalize on an abundant resource in schools: teachers. Communities of practice build upon teachers'

individual strengths and knowledge to form stronger instructional practices within a school community, while social constructivist theory supports the indispensability of inclusive practices.

Purpose Statement

A summary report examining the impact of inclusion on students with and without disabilities by Abt Associates (Hehir et al., 2016) reviewed 280 studies from 25 countries and found that 89 of the studies provided relevant scientific evidence and showed either neutral or positive effects for students. The overwhelming evidence in support of inclusion is a call to action for schools and teachers to improve their inclusive practices. The purpose of this study is to examine the impact of collaborative problem-solving (CPS) on the use of inclusive practices of general-education teachers at a private international school in Bogotá, Colombia and to explore the impact on the teachers' attitudes about inclusion and confidence in their abilities to meet diverse learners' needs.

Hobbs and Westling (1998) have proposed CPS, a process developed by Salisbury et al. (1997) as a strategy for improving inclusive practices. Teachers can use CPS to solve situations that arise in inclusive settings by engaging in a multi-step process: 1) defining the problem, 2) assessing possible antecedents or "causes," 3) setting goals or objectives, 4) carrying out actions or interventions, and 5) evaluating success. CPS, which "shifts the critical focus away from the question of whether or not inclusion 'works' to the question of how it can be made to work," can promote a more inclusive environment by identifying and eliminating social, physical, and instructional exclusion (Salisbury et al., 1997, p. 18). While these results are important, limitations remain. CPS relies heavily on a school culture of "teacher flexibility, shared decision making, and a

willingness to change current practices" (Salisbury et al., 1991, p. 204). It is important to note the implicit presumption that improving inclusive practices was both important and desirable for the school community. Even so, CPS has enormous potential to lead to meaningful changes in inclusive practices.

Research shows that collaboration and targeted professional development can lead to higher-quality inclusive practices (Darrow, 2009; Implementing Inclusion in Schools, 2019; Rieser, 2012; Schuelka, 2018; Smith, 2007). The purpose of this study is to examine the impact of CPS on the inclusive practices of primary school general-education teachers at a private bilingual international school in Colombia, South America, as well as to explore the impact on teachers' attitudes about inclusion and their confidence in their abilities to meet the needs of exceptional learners.

Research Questions

Examining a CPS process among general education teachers could lead to better outcomes for students with and without disabilities, improve classroom teachers' collaborative relationships, and capitalize on individual teachers' strengths to improve teachers' instructional practices schoolwide. It may also lead to improved attitudes and beliefs, which have been identified by several studies as the major barrier to inclusion (UNESCO, 1981). Utilizing CPS to address the identified barriers to inclusion is supported by the theoretical frameworks that guide this study, in which knowledge is socially constructed. Therefore, this mixed-methods action research aims to examine the following original research question: How does participating in collaborative problem-solving impact teachers' inclusive instructional practices, teachers' attitudes and beliefs

about inclusive education, and teachers' confidence in meeting the needs of exceptional learners?

Positionality

Researcher role and positionality are of significant importance when designing any type of research. Herr and Anderson (2015) emphasized this critical area when they reminded us, "The degree to which researchers position themselves as insiders or outsiders will determine how they frame epistemological, methodological, and ethical issues in the dissertation" (p. 39). Positionality is not always easy to define and may even shift throughout a study. In reflecting on my own role as researcher for the problem of practice I have identified, the insider in collaboration with other insiders most aptly describes my position (Herr & Anderson, 2015). I am an insider in my context, as I am an employee at the school, albeit for less than one school year at the time of the study. The goal is to improve my own practice as primary school intervention specialist, which includes improving exceptional learners' outcomes by supporting general education teachers. This was not done in isolation but required me to collaborate with PreK-through second-grade general education teachers. Though I am an insider, it is important to acknowledge that my position is one of administrator, which may have impacted the power relation between the other insiders on my research team and me, as I am their supervisor. Thus, it was especially important to ensure other teachers' and professionals' voluntary and democratic participation in this study. In addition, the limited amount of time I had been employed at the school at the time of the study may have impacted teachers' willingness and openness to engage in action research. Prior to implementing

the intervention, I needed to establish strong collaborative relationships as a supervisor and school leader.

Research Design

Belzer and Ryan (2013) remind us, "While a PhD dissertation question may be derived from published theory and research, an EdD student's focus comes from a need to make improvements in a specific educational context" (p. 197). This succinctly describes a core difference between traditional and action research. While each has its strengths, action research more appropriately addresses the needs of my personal context and problem of practice. Action research emphasizes a community's specific needs and instead of focusing on developing theories and generalized principles, the goal is to improve practice (Efron & Ravid, 2013).

Herr and Anderson (2015) defined action research as "inquiry that is done *by* or *with* insiders to an organization or community, but never *to* or *on* them" (p. 3). It is important to note that the implementation of findings does not signal the end of the research process but instead leads to new "wonderings," and the cyclical process of action research continues. My research is focused on improving the daily inclusive practices of teachers at my school, rather than advancing theoretical knowledge beyond my specific location (Efron & Ravid, 2013). These distinct characteristics of action research made it the most fitting approach to my unique problem of practice, specifically through a mixed-methods approach.

Choosing a research approach is a critical step with implications for data collection, validity and reliability, and research participants. Efron and Ravid (2013) suggested considering the action research framework, personal worldview, and research

questions when deciding which approach works best (p. 53). They provided six questions to help determine the most appropriate research method. These questions address researcher assumptions about school reality, researcher perspective and study purpose, researcher role, the relationship between the action research framework and methodological choice, the relationship between the research question(s) and methodological choice, and how practical each method may be within a researcher's situation (Efron & Ravid, 2013, p. 57). After answering these questions in relation to my own action research proposal, I determined a mixed-methods approach would provide the best perspective for my study. My assumptions about school reality emphasize a focus on solutions to my problem of practice and finding out if my proposed interventions work to solve some barriers to inclusion rather than posing philosophical discussions about school reality. My proposed research question required both quantitative and qualitative data to fully explore student learning outcomes and teacher perceptions, as well as how they may change after participating in a CPS process.

A proposed typology of a mixed-methods action research design must incorporate the key methodological characteristics or dimensions specific to the design. Those dimensions include number of study strands, priority of quantitative or qualitative methods, and integration of quantitative or qualitative methods (Creswell & Plano Clark, 2011; Teddlie & Tashakkori, 2009). These dimensions are important to consider because they guide an action researcher in selecting a study design that will best address their research question(s). I collected quantitative and qualitative data simultaneously with no priority or weight given to either strand; therefore, a convergent design was most appropriate to answer my research question, specifically a convergent parallel mixed-

methods design. The strands were kept independent during analysis, and qualitative and quantitative results were mixed during the overall interpretation (Ivankova, 2015).

Participants

Participants included volunteer homeroom teachers in grades PreK to 2. Teachers could be "local" hires (Colombians) or "foreign" hires (non-Colombians). They were recruited via a Google survey to gauge interest in participation with no obligation to participate and no negative consequences for choosing not to participate. Due to the small number of participants who volunteered from each grade level, a single collaborative group was created comprised of seven homeroom teachers: one PreK teacher, one kindergarten teacher, two first-grade teachers, and three second-grade teachers.

Setting

The study took place in a private coeducational PreK-12 day school founded in 1938 with a U.S.-oriented college preparatory curriculum located in Bogotá, the capital city of Colombia. The school community is made up of 33 nationalities (57% Colombian, 10% U.S. citizens, 22% dual U.S.-Colombian citizens, and 11% of students from other countries) with a current enrollment of approximately 1,815 students. The school currently employees 388 persons (287 faculty, 56 administrative support staff, and 45 general service staff). According to the U.S. Department of State, annual costs at the school are as follows: Grades PreK-7 cost $10,364-11,699; and grades 8-12 cost $10,176-10,364, depending on the specific grade.[1] There is an additional one-time enrollment fee of $18,000. The minimum wage in Colombia for 2021 was $908,526 COP, with an additional $106,454 transportation supplement (Ministry of Work, 2020).

[1] The exchange rate at the time of the study was $3,824.24 Columbian Pesos (COP) per U.S. dollar.

Procedures

Prior to implementing the CPS intervention, I observed the instructional practices of participating teachers to establish a baseline for the quantity and quality of inclusive practices currently in use. This pre-intervention observation also included a checklist to enumerate the number and type of inclusive practices observed. The high-quality inclusive practices checklist is adapted from the Heartland Equity and Inclusion Project and the U.S. Office of Special Education Programs (Wills et al., 2012). Observations were repeated post-intervention using the same format and checklist. The pre-intervention observation checklist identified which and how many high-quality inclusive practices were observed and then were compared to the post-intervention observation to analyze changes in the use or type of inclusive strategies occurring in the classroom.

Participating teachers were asked to complete a questionnaire prior to the implementation of the intervention. This Likert-style questionnaire, the Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities, was created by Daniels and Vaughn (1999) as a tool to obtain information for decision-making about teachers' professional development needs and program effectiveness. Used to examine teachers' perceived knowledge and skills, promote communication and collaboration between special education and general education teachers, and identify barriers to inclusion, the questionnaire consists of four parts: 1) demographic information, 2) instructional practice and content, 3) planning and managing the teaching and learning environment, and 4) managing student behavior and social interaction skills. Additionally, there is a comments section in alignment with my mixed-methods design.

After the closure of the final CPS session, teachers again completed the Scale of Knowledge survey.

Prior to the implementation of CPS, I provided instruction on the 5-step CPS process to the volunteer teacher participants. This included a three-hour session of discussion and role-play to explain the rationale for inclusive schooling practices; a working knowledge of what physical, social, and instructional inclusion might look like; and an overview of criteria to screen potential solutions, which must reflect general principles of equity, concern for others, belonging, and accommodation for individual differences. Finally, participants received instruction in the 5-step CPS process itself (Salisbury et al., 1997, p. 198):

1. Identify the problem: A problem emerges whenever the desired outcome of inclusion and the reality of the situation do not align. To identify the problem, state the desired outcome(s).
2. Generate all possible solutions: Brainstorm potential solutions to the problem. In this step, all ideas are valid with no limits placed due to their viability or not. The goal is to identify as many alternatives as possible to what is currently happening.
3. Screen solutions for feasibility: This step consists of two parts.
    a. After brainstorming possible solutions, review each recommendation with the following criteria in mind:
        i. Does the solution match the value base of the group?
        ii. Is the solution feasible?
        iii. Can the individual or group implement the solution?

iv. Are all the materials available?

v. Can it be accomplished in the setting where the problem arises?

vi. Is there enough time to do it?

4. Predict the possible outcomes/success of the solution: Participants should identify the potential benefits or detriments of the proposed solutions.
5. Choose a solution to implement: Come to an agreement on which solution or combination of solutions to implement and begin the process of implementation.
6. Evaluate the solution: Participants evaluate whether the proposed solution had its intended effect. Was the identified problem successfully resolved? Did the student get what they needed, or do concerns remain? Are any additional actions necessary?

Participating teachers were asked to engage in a minimum of two monthly formal CPS sessions for at least six formal sessions observed over the course of 12 weeks. The sessions were documented using audiotape and written records. Participants were asked to document (using voice notes, memos, etc.) any spontaneous CPS sessions that occurred outside of formal meetings, though none were reported. The qualitative data from CPS sessions were organized into categories identifying a physical, social, or instructional instance of exclusion and evaluated for fidelity to the CPS five-step process as described above (Salisbury et al., 1997).

At the completion of at least six CPS sessions, individual semi-structured interviews took place. They included prepared open-ended questions to encourage participants to “co-construct the narrative and raise and pursue issues that are related to

the study but were not included when the interview questions were planned" (Efron & Ravid, 2013, p. 103). The semi-structured interviews were audio-recorded, transcribed, and evaluated for emerging categories that were used to develop codes and organize the interview data into distinct categories (Efron & Ravid, 2013).

Significance

Herr and Anderson (2015) have defined action research as "inquiry that is done *by* or *with* insiders to an organization or community, but never *to* or *on* them" (p. 3). It is important to note that implementing findings does not signal the end of the research process but instead leads to new "wonderings" and the cyclical process of action research continues. The goal of my research was to improve the daily inclusive practices of teachers at my school, rather than aiming to advance theoretical knowledge beyond my specific location (Efron & Ravid, 2013). These distinct characteristics of action research made it the most fitting approach to my unique problem of practice.

With the increasing number of exceptional learners in the general education classroom, there is a growing urgency to ensure teachers have the skills necessary to address their students' individual needs. While my specific concern is for the students at my school, there are clear implications that this is an important topic on a broader scale. The Universal Declaration of Human Rights (UDHR) affirms education is a fundamental human right for everyone, including exceptional learners (UN General Assembly Resolution 217A). My research aims to address the barriers to inclusive education and increase collaboration among teachers to improve learning outcomes for exceptional learners in the general education setting. The benefits to students and teachers could result in broader implications for supporting exceptional learners in other contexts when

implementing collaborative strategies. While each school context is unique, identifying successful strategies in one setting could provide guidance for the implementation of those same strategies in other settings.

Limitations

As in any study, certain limitations exist. A primary limitation in this study is time. Communities of practice are dynamic social structures that require "cultivation" so they can emerge and grow (Wenger et al., 2002). Collaboration over time is important to develop a strong sense of community, but this collaboration was limited due to the amount of time the intervention took and my recent arrival to the setting. In addition to the challenges of building strong communities of practice, the limited time frame did not allow for more than six cycles of CPS due to the time constraints of teachers' schedules and the length of time available for data collection.

According to Merriam and Tisdell (2016), "External validity is concerned with the extent to which the findings of one study can be applied to other situations" (p. 192). As the aim of action research is to improve practice in the researcher's context with the findings applied directly to their practice (Efron and Ravid, 2020), there is not often the same generalizability as in other types of research. While this is not the primary concern of action research, it remains a limitation.

Definitions

Exceptional learner refers to students with disabilities, as well as those who are gifted and talented. For the purpose of this study, an exceptional learner was any student diagnosed with a disability according to the categories established under the Individuals with Disabilities Education Act (IDEA).

IDEA, the Individuals with Disabilities Education Act reauthorized by Congress in 2004, "is a law that makes available a free appropriate public education to eligible children with disabilities throughout the nation and ensures special education and related services to those children" (U.S. Department of Education, n.d., para. 1).

Collaborative problem-solving is "the capacity of an individual to effectively engage in a process whereby two or more agents attempt to solve a problem by sharing the understanding and effort required to come to a solution and pooling their knowledge, skills and efforts to reach that solution" (Organization for Economic Co-Operation and Development [OECD], 2010, p. 12).

Inclusion is the practice or policy of providing equal access to educational opportunities and resources for exceptional learners (Oxford University Press, 2021).

High-quality inclusive practices are instructional practices established as effective by research literature and that recognize students' individual strengths and needs to ensure equal access to educational content for all (National Professional Development Center on Inclusion, 2011).

CHAPTER 2: LITERATURE REVIEW

> Both individuals and society benefit from the right to education. It is fundamental for human, social, and economic development, and a key element to achieving lasting peace and sustainable development. It is a powerful tool in developing the full potential of everyone and ensuring human dignity, and in promoting individual and collective wellbeing. (UN Committee on Economic, Social and Cultural Rights, 1999, para. 1)

Education is a fundamental human right and is vital for the practice of other human rights and is the foundation for building a successful future (UNESCO, 2020). The school experience is critical in forming opportunities for employment, relationships, contributions to the community, and our vision for the future (Inclusive Education Canada, n.d.). Even so, children with disabilities continue to be excluded and segregated in special education classrooms despite legal policies and legislation obligating their inclusion (Waddington & Toepke, 2014). According to the United Nations Committee for the Rights of Persons with Disabilities (2016), “Millions of persons with disabilities are denied an education, and for many more, education is available only in settings where they are isolated from their peers” (para. 2). When exceptional learners are included, their education is often of poor quality and sets lower expectations. In an inclusive setting, the potential and contributions of students with disabilities are valued and it prepares them for a successful future (UNESCO Global Education Monitoring Report, 2020). The problem of practice addressed in this study is the

limited use of quality inclusive practices by general education teachers stemming from a lack of knowledge and confidence, as well as the presence of negative attitudes about inclusion.

This action research aimed to examine the following original research question: How does participating in collaborative problem-solving impact teachers' inclusive instructional practices, teachers' attitudes and beliefs about inclusive education, and teachers' confidence in meeting the needs of exceptional learners?

Inclusion

In this section, an examination of inclusion will provide a guiding definition, an argument based on evidence in the literature about why inclusion is a necessary and valid educational goal, components and implementation of inclusion in the classroom, and a discussion of barriers to and supports for successfully implementing inclusion.

Inclusion Defined

The many differing ideas and debates surrounding the definition of inclusion can impact the effectiveness of interventions to improve its implementation. Therefore, it is critical to begin any discussion of inclusion with a strong understanding of what it means. Inclusion starts from the belief that education is a basic human right and serves as the foundation for a more just and equitable society (Ainscow, 2020). A key to inclusion is the right to non-discrimination. Save the Children (2014) has defined inclusive education in the following way:

> One dimension of a rights-based quality education which emphasizes equity in access and participation and responds positively to the individual learning needs and competencies of all children. Inclusive education is child-centered and places

> the responsibility of adaptation on the education system rather than the individual child. Together with other sectors and the wider community, it actively works to ensure that every child, irrespective of gender, language, ability, religion, nationality, or other characteristics, is supported to meaningfully participate and learn alongside his/her peers and develop to his/her full potential. (p. 1)

It can be just as useful to define what inclusion is *not* as to define what it *is*. Inclusion does not see the child as the problem. Inclusion does not try to "fix" the child and does not focus on a deficit perspective. Inclusion does not try to make the child "fit in" to a certain mold in order to be included in the classroom or school environment (United Nations Relief and Works Agency, n.d.). This is a shift away from previous medical models and deficit-based perspectives of students with disabilities.

The *Implementing Inclusion Guide*, developed to support the implementation of Article 24 of the UNCRPD, highlighted the difference between the integration of children with disabilities and inclusion of children with disabilities (Rieser, 2012). In an integration model, the child is viewed as the problem. If a student with a disability does not respond as desired, they are viewed as unable to learn and different from other children. The responsibility for their education rests in the hands of the special education teacher. In an inclusive model, the education system is viewed as the problem. Teachers' attitudes, lack of teaching aids and equipment, and poor-quality teaching are seen as the culprits when students are not successful. But all these issues arise from the paradigm shift that is both implicit and explicit in the UNCRPD (UN General Assembly, 2006), which demonstrates a shift in thinking about the nature of disability from a medical/individual model to a social model in which the critical factor for change is the

involvement and empowerment of people with disabilities and their educational community as the main driver of change (Rieser, 2012).

The UNCRPD (2006) defined integration as placing students with disabilities in existing general education environments, provided those students can conform to the standardized requirements of those environments, whereas inclusion

> is a process of systemic reform embodying changes and modifications in content, teaching methods, approaches, structures, and strategies in education to overcome barriers with a vision serving to provide all students of the relevant age range with an equitable and participatory learning experience and environment that best corresponds to their requirements and preferences. (Article 24, p. 4)

A visual representation of integration versus inclusion, adapted from Hehir et al. (2016) can be found below in Figure 2.1.

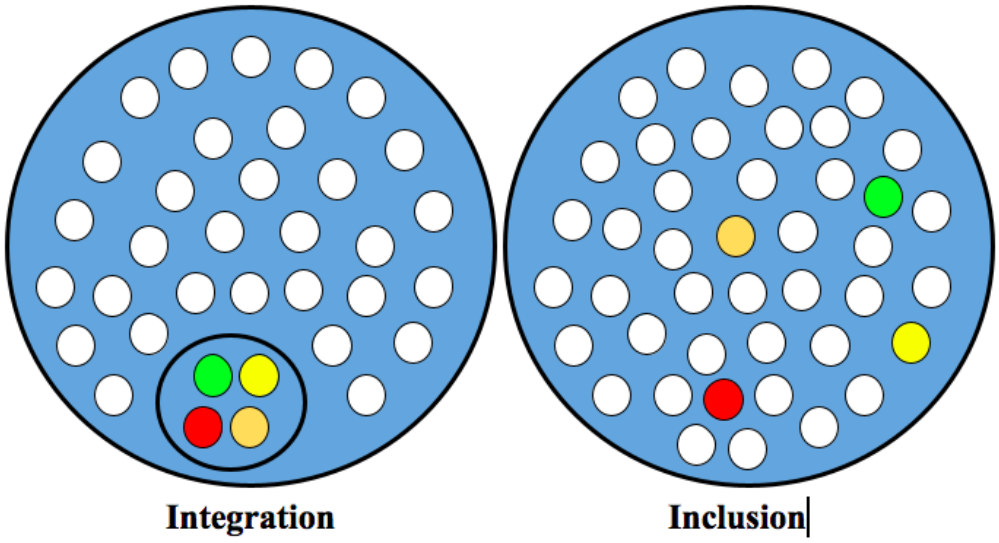

Figure 2.1 Integration vs. Inclusion

Note. Adapted from p. 3 of Hehir, T., Grindal, T., Freeman, B., Lamoreau, R., Borquaye, Y., & Burke, S. (2016, August). *A summary of the evidence on inclusive education*. Abt Associates.

In Figure 2.1, the blue circles represent a general education classroom, with the four colored circles representing students with disabilities and the white circles designating general education students. The left side of the figure shows how students with disabilities are physically present in the general education classroom but remain separate, thus demonstrating integration and not inclusion. The right side shows the same general education classroom but with the students with disabilities represented as complete members of the classroom community, physically present and fully included. This distinction is critical to understand and recognize when it comes to facilitating change and lasting reform within the education system and in individual classrooms.

Why Inclusion?

The Salamanca Statement and Framework for Action on Special Needs Education was created in 1994 by delegates at the World Conference on Special Needs Education in Salamanca, Spain and adopted by 92 governments and 25 international organizations. This document was developed in conjunction with UNESCO with the express purpose of informing policy and guiding principles in the development of education policy around the world to implement the guiding framework. This framework included a reaffirmation of every child's right to an education, as proclaimed in the UDHR, meaning that all children, regardless of physical, intellectual, social, emotional, linguistic, or other conditions, deserve the right to be included in schools. Guaranteeing children with and without disabilities are able to learn in inclusive settings protects individual rights to an education

> shall be directed to the preparation of the child for responsible life in a free society, in the spirit of understanding, peace, tolerance, equality of sexes, and

> friendship among all peoples, ethnic, national, and religious groups and persons of indigenous origin and the development of the child's personality, talents and mental and physical abilities to their fullest potential (UNESCO, 2001, Article 29).

Children's fundamental rights to non-discrimination and quality education means exclusion from and within the classroom and general education school environment undermines their ability to achieve the goals of Article 29, which can have far-reaching consequences. As a result of exclusion, studies suggest nations may forego up to seven percent of their gross domestic product (Banks & Polak 2015). This estimate considers various contributing factors such as the relationship between low investment in accessible education, leading to underemployment, which increases the likelihood of poverty and dependence on social welfare programs (Banks & Polack, 2015). Additionally, promoting an inclusive culture in schools can lead to positive effects outside schools with decreased discriminatory attitudes and behaviors (Carter, 2015).

In examining the cost-effectiveness of inclusion versus segregated schools, studies show segregated schools are increasingly unrealistic. UNESCO (2009) and others have shown that 60% of students with special educational needs do not require any adaptations, with almost 80-90% needing only minor adaptations such as teaching strategy training, child-to-child support, and environmental adaptations (Jonsson & Wiman, 2001; Stubbs, 2008; The World Bank, 2007). A 1994 OECD report estimated that the average costs of segregated placements were seven to nine times higher than those for placing children with disabilities in general education classrooms. More recent OECD (1999, 2000) research has demonstrated that special education per-capita costs

were around 2.5 times those of regular education. In general, a variety of international organizations and studies (European Agency for Special Needs and Inclusive Education, 2016; Nusche et al., 2015; UNESCO, 2009; UNICEF, 2015) have concluded that inclusive education is much more cost-effective than special education.

In addition to cost-effectiveness, research on the impact of inclusion on the academic development of students without disabilities has shown primarily positive or neutral effects (Kalambouka et al., 2007; Peltier, 2006; Ruijs et al., 2010; Salend & Garrick Duhaney, 1999). This is true across grade levels, from preschool students to secondary education (Cole et al., 2004; Demeris et al., 2007; Huber et al. 2001; Kalambouka et al., 2007; Rhoad-Drogalis & Justice, 2020; Rouse & Florian, 2006; Warren et al., 2016). A benefit can also be seen in the socio-emotional development of students with and without disabilities. Multiple studies have shown when students with disabilities are included in the regular education classroom, there is a reduction of fear, hostility, prejudice, and discrimination and an increase in acceptance, understanding, and tolerance of individual differences for students with disabilities by students without disabilities (Hehir et al., 2016; Peltier, 2006; Salend & Garrick Duhaney, 1999; Schwab, 2015). These same studies also show that there are higher rates of peer acceptance and friendships between students with and without disabilities in inclusive settings.

The evidence presented demonstrates that not only is inclusive education a fundamental human right, but that it leads to better outcomes in all areas for students with and without disabilities. Benefits of inclusive education include improved social and academic outcomes with long-term impacts on students' future success and ability to be fully contributing members of society.

Developing Inclusive Classrooms

In examining inclusion, it is necessary to understand what its implementation in practice looks like. This is a critical and complex process, so developing clear guidelines and indicators of success is necessary (Gaylord et al., 2003). UNESCO, in collaboration with the International Bureau of Education (IBE), has developed training tools in curriculum development for educators, including the Resource Pack for Supporting Inclusive Education (IBE, 2016). The resource pack consists of three connected guides, with the final guide entitled "Developing Inclusive Classrooms." The following eight indicators help identify a successful inclusive classroom:

1. Teaching is planned with all students in mind.
2. Lessons encourage the participation of all students.
3. Students are actively involved in their own learning.
4. Students are encouraged to support one another's learning.
5. Support is provided when students experience difficulties.
6. Classroom discipline is based on mutual respect and healthy living.
7. Students feel that they have somebody to speak to when they are worried or upset.
8. Assessment contributes to the achievement of all students. (IBE, 2016, p. 109)

Each indicator is listed as an ideal, which the writers define as "unattainable aspirations against which existing arrangements can be compared in order to pinpoint areas for development" (IBE, 2016, p. 109). The purpose is to provide teachers with a clear set of indicators to compare to their own classroom practices and to reflect on the areas in which they need to develop and improve.

Barriers and Supports to Inclusive Practices

Several barriers to the successful implementation of inclusion have emerged from the literature. In examining teachers' perceptions of inclusion, Monsen et al. (2014) suggested these perceptions are a primary influence in both the way teachers manage their classrooms and how they understand and interpret the support available to them. Research has demonstrated there is a difference in attitudes about inclusive education between grade levels, as primary-grade teachers generally show more positive attitudes than secondary-school teachers (Cook et al., 2007; McGregor & Campbell, 2001; Robertson et al., 2003). Fuchs (2010) discussed several teacher-identified barriers, including a lack of support from administration in providing time for planning and collaboration, a lack of adequate professional development despite increasing expectations and responsibilities, a lack of support from special educators and support staff, and insufficient preparation in their preservice programs. Darrow (2009) separated perceived barriers into three categories: 1) organizational barriers, which "relate to the ways schools and classrooms are structured, how goals for students with disabilities are defined, how instruction is delivered, and how classrooms are managed"; 2) attitudinal barriers, which "relate to the beliefs and attitudes that teachers may have about educational services for students with disabilities"; and 3) knowledge barriers, which "relate to the range of knowledge and skills that teachers need in order to provide effective services to students" (pp. 29-30).

The barriers identified above can lead to difficulties in both the perceived and actual implementation of inclusive practices. Lack of trained personnel and negative attitudes about inclusion have resulted in exceptional learners being "integrated" into the

general education classroom without being included. It is necessary to address each of these barriers to support the successful inclusion of students with disabilities in the general education classroom, as teacher beliefs and attitudes impact the implementation and sustainability of any intervention.

International and Local Policies on Inclusion

A review of international and local inclusion policies can provide perspective and understanding of the current status of education for students with disabilities (Peters, 2007). From the 1960s to the present, several major documents have provided perspective on policy development. While the United Nations addressed issues of the rights of persons with disabilities prior to 1960, its focus was primarily rehabilitative, whereas in the 1960s and 1970s, a noticeable movement about a rights-based approach developed (Peters, 2007).

The 1960 Convention Against Discrimination in Education (UN High Commissioner for Human Rights [OHCHR], 1960) did not specifically address disability, but it does require cosignatories to "eliminate and prevent discrimination in education" (Peters, 2007, p. 101). A decade later, the Declaration on the Rights of Mentally Retarded Persons (OHCHR, 1971) emphasized individuals' specific right to education regardless of disability. Following soon after was the Declaration on the Rights of Disabled Persons (UN, 1975), which was considered "a landmark document in the context of its time" (Peters, 2007, p. 101) because it recognized the rights of all people with disabilities. The 1980s saw the ratification of the Sunberg Declaration (UNESCO, 1981); the World Programme of Action Concerning Disabled Persons (UN Enable, 1982); and the Tallinn Guidelines for Action on Human Resources Development (UN, 1989). These policies

resulted in declarations of inclusive models of education and began to address many social barriers to students' full participation in the general education classroom.

The policies and frameworks established throughout the 1990s and early 2000s built upon their predecessors by establishing guidelines focused on abilities rather than deficits and moved further away from the medical model of disability, also acknowledging social and environmental factors (Convention on the Rights of the Child [UNICEF, 1990]; World Declaration on EFA [UNESCO, 1990]; Standard Rules on the Equalization of Opportunities for Persons with Disabilities [UN Enable, 1993]; World Congress on Special Needs Education, Salamanca [UNESCO, 1994a]; World Summit for Social Development, Copenhagen [UN, 1995]; EFA Framework for Action, Dakar [UNESCO, 2000a]).

Using these international policies as guides, many individual countries have begun to address the educational inequities within their borders by creating their own policies (Hayes & Bulat, 2017). Over the past two decades, Colombia has worked to transform its education system to better meet the needs of learners, including those in poor and underdeveloped areas and exceptional learners (OECD, 2016). The federal government has set a goal to become the most educated country in Latin America by 2025. For nearly five decades, an internal conflict has had a defining impact on all aspects of social and economic development in Colombia, including education. The future of Colombia's economic and social environment depends on its ability to build a strong and inclusive education system and to provide the support necessary to its classroom teachers.

The first steps toward more inclusive practices were taken in 1994 (Ley 115, 1994), when the first inclusive education law was passed, followed by Colombia's ratification of the UNCRPD (UN, 2006) in 2011. Colombia's Decreto 1421 de 2017 requires the education sector to commit to gradually removing existing barriers to entry into education and to promote the development, learning, and participation of exceptional learners so they are equitable with other students (Decreto de Educación Inclusivo para Población con Discapacidad).

These inclusive laws have gone a long way to promote the inclusion of students with disabilities in the general education system, but many issues such as violence, displacement, poor teacher preparation, a deficit model, and significant inequities between private and public schools remain (Kamenopoulou, 2018). Based on their examination of inclusive practices in Colombia, Kamenopoulou (2018) concluded inclusive education is most commonly "perceived as mere mainstream placement" (p. 1208) for students with disabilities, and limitations in teachers' preparation to support students with disabilities in the classroom have led to a disconnect between policy and practice, thus indicating a need to address this disconnect.

Theoretical Framework

The theoretical frameworks guiding this action research study are social constructivism, as originally developed by Lev Vygotsky, and Étienne Wenger's community of practice model (1998). These theories both emphasize the importance of the interplay between human experiences and social interactions in learning. The emphasis both theories place on learning as a result of social interactions provides a strong framework for the present study.

Vygotsky's Social Constructivism Theory

It is critical to the equity of practice in education to include theories for students with disabilities in order to transform practices in the general education classroom. An understanding of young children's learning and development within a framework that appropriately emphasizes a conceptualization of their learning and development is necessary to inform best practices for inclusion (Mallory & New, 1994). A variety of features of inclusive education are relevant within the context of social constructivist theory.

Vygotsky's approach to child development as a form of social constructivism was based on the idea that cognitive functions are the products of social interactions. Knowledge is constructed through social negotiation and is collaborative in nature. He did not believe learning could be separated from its social context (Vygotsky, 1978). Lenjani (2016) has identified several guiding principles of social constructivism. First, since learning is a search for meaning, it must focus on areas in which students are actively trying to construct meaning. The second principle refers to meaning as an understanding of parts in the context of wholes. Third, we must understand mental models children use to understand the world around them and the assumptions they make to support those models. The final principle is that the purpose of learning is not simply to memorize facts but for students to construct their own meaning.

Vygotsky's social constructivism theory has significant implications for special education practice and inclusive policies in schools today. Mallory and New (1994) discussed more contemporary interpretations of Vygotsky's work as emphasizing "the social and contextual bases of learning, the progressive qualities of human development,

and the dynamic nature of cognitive processes as they occur within culturally mediated social activity" (p. 325). The following three features of constructivist theory contribute to our understanding of inclusive education's aims and processes: (a) the importance of learning's sociocultural context; (b) the role of social activity, including instruction, in development; and (c) active learners' contributions to their own development (Vygotsky, 1993).

As early as the 1920s, Vygotsky was interested in the psychology of children with disabilities, and according to Kozulin (1990), he believed understanding how they learned was "an indispensable aspect of the general theory of human development" (p. 195). Understanding the nature of disability and the means by which students with disabilities are taught and included or not are central to a special education system (Vygotsky 1993). Vygotsky argued that disability was a socio-cultural developmental phenomenon in which some disabilities are organic or "primary" and others are a result of "distortions of higher psychological functions due to social factors," or "secondary" disability (Dixon & Verenikina, 2007, p. 199). One important component Vygotsky stressed was that disability changes during development and is impacted by social influences and intervention programs, with the same basic developmental principals being the same for children with and without disabilities (Dixon & Verenikina, 2007).

Vygotsky (1993) stressed the importance of disability's dynamic socio-cultural nature to the methodology of inclusive education, stating that "education must cope not so much with these biological factors as with their social consequences" (p. 66). Included in Vygotsky's theory as it relates to special education practice was his call for "inclusion based on positive differentiation" (Gindis, 2003, p. 213). Early on, Vygotsky was a strong

proponent for what is now known as the full inclusion model (Lipsky & Gartner, 1996). Later in his writings, he proposed that the learning environment should emphasize a change in teaching methods rather than school setting so students could be educated in the most inclusive social and cultural environment where all staff would focus on the child's individual needs (Vygotsky, 1993). He emphasized the benefits of inclusion and was critical of both segregation and "mindless mainstreaming" (Gindis, 1999, p. 37). Keeping children with disabilities in the general or mainstream social and cultural context could address or prevent "secondary" disability (Giest, 2018).

Vygotsky's social constructivist theory emphasizes that students with disabilities must be seen as belonging within the community and viewed as constructive members of society (Mallory & New, 1994). The classroom is viewed as a community of learners, social relations are the catalyst for learning in an inclusive curriculum, content and context are linked through inclusive curriculum and instruction, and processes for feedback and assessment are authentic and emotionally supportive (Mallory & New, 1994).

Communities of Practice as a Framework for Inclusion

The role social and cultural interactions play in learning, as highlighted by social constructivism, closely relates to the tenets of the communities of practice theory. Lave and Wenger (1991) argued that learning is a social and not an individual process that occurs within a learner's cultural and historical context. Wenger (2008) further developed CoP with the key assertion that learning occurs through our participation in multiple social practices when we participate in collective learning through a shared purpose. Communities of practice are defined as "groups of people who share a concern, a set of

problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2002, p. 4). In developing the CoP framework, Wenger (2008) worked from four premises about learning that he viewed as key assumptions:

1. We are social beings. Far from being trivially true, this fact is a central aspect of learning.
2. Knowledge is a matter of competence with a respect to valued enterprises.
3. Knowing is a matter of participating in the pursuit of such enterprises, that is, of active engagement in the world.
4. Meaning – our ability to experience the world and our engagement with it as meaningful – is ultimately what learning is to produce. (p. 3)

Following these premises, CoP is defined by three practices: mutual engagement (community), a joint enterprise (domain), and a shared repertoire (practice) (Wenger, 2008). A CoP is not simply a group of people, a team, or a network. The source of unity in a community is its participants' mutual engagement and their engagement in actions of meaning-making (Wenger, 2008). Joint enterprise creates coherence in the community because it is a "collective process of negotiation that reflects the full complexity of mutual engagement" (Wenger, 2008, p. 77). It is defined by participants' pursuit of the process and their relations of mutual accountability in working toward a shared goal that is fundamental to the practice (Wenger, 2008). The third and final characteristic, shared repertoire, includes all the routines, practices, and "ways of doing things" the community develops over time (Wenger, 2008, p. 88). Each of the three characteristics works in conjunction with the others to form a cohesive community of practice.

Mortier (2020) argued that communities of practice as a theoretical framework of knowledge can provide a basis for confronting some barriers to inclusive education for students with disabilities. Inclusive education requires teachers to have a large repertoire of knowledge and skills to support students' individual needs, making it almost impossible for one educator to be fully prepared to do so (Mortier, 2020). Mortier argued that this is where collaborative teaming within the communities of practice framework becomes necessary. She noted that traditional collaborative teaming is based on teachers' "specific professional knowledge framework," while a community of practice involves creating new knowledge, and the characteristics of community, domain, and practice are fundamental to its success, though they may take many forms (Mortier, 2002, p. 332).

Kohler et al. (1997) found that teachers were more likely to change their instructional practices when collaborating with peers than when working independently and that this change was sustained and even extended over time, thus indicating the need to improve teacher practices and attitudes about inclusion via collaboration. The present study initiated a collaborative approach in which I could examine the impact of general education teachers' inclusive practices and attitudes in the private international school context. The proposed frameworks emphasize the sociocultural component of knowledge creation and capitalize on an abundant resource in schools: teachers. Communities of practice build upon teachers' individual strengths and knowledge to form stronger instructional practices within a school community, while the social constructivist theory supports the indispensability of inclusive practices.

Teacher Collaboration

While various factors can influence teacher learning, collaboration has been shown to facilitate the sharing of best practices, improve student outcomes, increase teacher retention, and sustain the implementation of interventions over time (Berry et al., 2009). Research also shows that collaboration and targeted professional development can lead to higher-quality inclusive practices (Darrow, 2009; Rieser, 2012; Schuelka, 2018; Smith, 2007). As evidenced by an ample body of literature and highlighted by Hunt et al. (2003), implementing effective inclusive practices requires a shift in instructional practices, changes to the classroom structure, a reexamination of professional roles, and most critically, continuous collaborative teaming (e.g., Gee et al., 1995; Giangreco, 2000; Giangreco et al., 1993; Giangreco, et al., 1999; Hunt et al., 2001; Rainforth & York-Barr, 1997; Thousand & Villa, 1992; York-Barr, et al., 1996).

Collaborative Problem-Solving as a Strategy to Improve Inclusion

Hobbs and Westling (1998) proposed CPS, a process developed by Salisbury et al. (1997), as a strategy for improving inclusive practices. Teachers can use CPS to resolve situations that arise in inclusive settings by engaging in a multi-step process: 1) defining the problem, 2) assessing possible antecedents or causes, 3) setting goals or objectives, 4) carrying out actions or interventions, and 5) evaluating success.

Within the collaborative practices observed, multiple elements of collaboration lead to successful inclusion and improved teacher practices (Hobbs & Westling, 1998). The critical components of successful collaboration include voluntary participation, parity between participants, and collaborators' mutually agreed-upon goals. Additionally, collaboration requires shared responsibility and shared resources, and team members

must be collectively responsible for the outcomes of their decisions. Hobbs and Westling (1998) argued that a CPS approach provides a systematic process for identifying and addressing which interventions are useful in specific situations for the inclusion of students with disabilities in the general education classroom. There is also evidence that teachers view collaboration positively and as professionally beneficial, while also providing benefits of potentially improved school practices and learning outcomes for children with disabilities (Mullholland & O'Connor, 2016).

CPS, which "shifts the critical focus away from the question of whether or not inclusion 'works' to the question of how it can be made to work," can promote a more inclusive environment by identifying and eliminating social, physical, and instructional exclusion (Salisbury et al., 1997, p. 18). Collaboration between teachers is fundamental to effective inclusion. Teacher collaboration can cultivate communities of practice by developing professional relationships that strengthen the educational experiences and learning outcomes of students with disabilities (Mullholland & O'Connor, 2016).

Relevant Research

It is necessary to examine the current literature for evidence of the efficacy and success of any proposed intervention. The following is a summary of the literature examining CPS to improve general education teachers' inclusion practices and learning outcomes for students with disabilities in an inclusive setting.

Salisbury and Evans (1993) developed the CPS process. In their seminal work, they sought "to assess the effectiveness of collaborative problem solving by peer advocates for enhancing the integration of students with severe handicaps in regular education contexts" (p. 3). In addition to examining the impact of a single intervention

(CPS) on the inclusion of students with disabilities in the general education classroom, Salisbury and Evans (1993) "carried out a longitudinal examination of the ecology of an inclusive school" (p. 9).

Over the course of three years, "a combination of interview, direct observation, participant observation, and survey methodologies" (Salisbury & Evans, 1993, p. 10) was used to study the school context, inclusive practices, and CPS intervention. The first half of Year 1 was dedicated to hiring and training staff, refining data-collection tools, and gathering observational and qualitative data in the classrooms. The second half of Year 1 focused on training and providing consultation to regular and special education teachers. During Year 2, K-2 general and special education staff were taught the CPS process. Year 3 consisted of refining and replicating the procedures developed during Year 2 at the next grade level. Results indicated positive increases in the frequency and type of social interactions between students with disabilities and their nondisabled peers. The data indicated that the nature of these interactions changed over time, with friendships emerging mid-kindergarten and sustained over time. The researchers observed an increase in attention to appropriate and accommodated use of materials following the in-service training in Year 1. The authors identified the measurement of CPS as the "most problematic of this study" (Salisbury & Evans, 1993, p. 14). Since many of the sessions took place spontaneously, the researchers and participating teachers found it difficult to anticipate and then record or recall what had occurred. Another limitation was instability at the school resulting from the principal's promotion to a central administration position and their replacement planning to retire at the end of the final year.

CPS has been utilized in various contexts to facilitate individuals working together to solve a common problem or to work toward a shared goal. A CPS strategy was implemented in an early childhood general education classroom with a focus on improving the physical, social, and instructional inclusion of students with severe disabilities (Salisbury et al., 1997). The study took place over two years in a small, low-income village with a large immigrant population in New York State. Four general education and two special education teachers from grades K-4 and their approximately 100 students with and without disabilities participated in the study. During Year 1, project staff and participating teachers first established criteria for screening potential solutions, keeping in mind "principals of equity, concern for others, belonging, and accommodation for individual differences" (Salisbury et al., 1997, p. 198), followed by a half-day training session on the CPS process. Year 1 utilized an eight-step CPS process, while Year 2 was streamlined to a 5-step process, in otherwise identical CPS instruction. After extensive modeling through teacher-initiated CPS, students began to initiate the process with their teachers.

As a result of this study, three major findings were identified. First, it was noted that teachers had begun to integrate the use of CPS within their daily practices. Teachers reported internalizing the process, indicating the ease with which CPS may be integrated into the general education classroom. Second, there were "observed increases in instances of physical, social, and instructional inclusion" (Salisbury et al., 1997, p. 202), which the authors attributed to the CPS process, since prior to its implementation, little or no physical, social, or instructional inclusion was observed. Finally, teachers' perspectives indicated that they felt CPS was an "important strategy for promoting the physical, social,

and instructional inclusion of students with disabilities in their classrooms" (Salisbury et al., 1997, p. 204). Student outcomes identified included developing concern for others, accepting and valuing diversity, feeling empowered to make change, working with others to solve problems, developing meaningful ways to include everyone, and fostering understanding and friendship. Documenting spontaneous CPS sessions proved to be difficult, as teachers needed to notify the researchers that a session was occurring in the moment. While the researchers were able to identify instances of successful solutions generated by CPS, they were unable to report on attempted and failed solutions, nor could they report on solutions initially identified as feasible that later proved to be unfeasible.

Investigating the use of problem-solving teams by general education teachers in an elementary school that had recently implemented an inclusive program, Williamson and Mcleskey (2011) aimed to improve general education teachers' ability to address the needs of their students with disabilities in the classroom. Problem-solving teams (PSTs) were established in response to implementing the inclusive program and the lack of progress was observed for students with disabilities. This qualitative study consisted of eight videoed and transcribed PST meetings and semi-structured follow-up interviews that were transcribed verbatim. An inductive analysis of the teacher interviews provided insight into "(a) the content of PST meetings, (b) teacher perspectives regarding the benefits and problems with PST meetings, and (c) how dialogue influenced construction of problems and solutions that were discussed at meetings" (Williamson & Mcleskey, 2011, p. 321). In follow-up interviews, teachers reported three primary benefits from participation in PSTs: "(a) feeling social support for their work from colleagues, (b)

learning new approaches to instruction, and (c) promoting improved practice through reflection" (Williamson & Mcleskey, 2011, p. 322).

While generally viewed as positive, teachers sometimes found interpersonal relationships and placing blame impeded problem solving. At other times, teams did not agree on the nature of the problem or indicated that meetings lacked focus. The fact that the elementary school where the study took place was a unique context also reduces generalizability. In addition, there was a lack of information regarding the impact the PSTs had on student outcomes and teacher practices. As the study relied on teacher reports and analysis of PST meetings, there were no data that directly provided information about these points. A more highly structured PST may improve its effectiveness and the efficient use of teacher time and addressing student needs.

Snell and Janney (2000) employed a problem-solving strategy to encourage general and special education teachers to work collaboratively to identify and resolve concerns about students with disabilities. This ethnographic study focused on elementary-school teachers and the process they used to work with special educators to address the needs of students with disabilities in their classrooms. The study was limited to one first-grade and two kindergarten classrooms in which students with moderate to severe needs were enrolled. Data collection involved participant observation and interviews by means of "(a) field notes, (b) transcripts of interviews, and (c) written documents of formal meetings and student progress" (Snell & Janney, 2000, p. 476). Semi-structured interviews were conducted with all three general education teachers and the special education teacher at the beginning and end of the school year. Formal meetings were held every six weeks and the researchers completed frequent classroom observations over the

course of the school year. Concerns identified by teachers fell into three categories: student goals and abilities, participation, and classroom community. The nature of the problem-solving meetings was informal and focused on concrete and practical steps that could be taken to address immediate concerns. Though there was no articulated model, teachers generally followed steps similar to traditional models. Teachers reported that they became more cohesive as a team and their problem-solving improved. The study findings also indicate the important role of the special education teacher as a support for both student and teacher. The teaching and planning styles of the individual teacher participants in the study may have influenced their problem-solving.

The research examined in this chapter demonstrates that CPS can be an effective strategy for improving inclusive practices. When teachers work together and take ownership of problems and solutions related to inclusion, it can lead to improved outcomes for exceptional learners. While each study had its own limitations, there is clear evidence that when working together, teachers can collaborate in ways that promote high-quality inclusion.

Conclusion

Inclusive education is a fundamental human right and steps must be taken to improve its implementation. International and local policies mandate the inclusion of all students in the general education environment, but teachers are often unprepared to face this challenge. Collaboration between teachers has been shown to result in positive outcomes for students and provides support for teachers in classroom practices. A CPS process provided a guide for teachers to address issues of physical, social, and academic exclusion in their classrooms. The theoretical frameworks in the present study provide a

perspective that supports the inclusion of students with disabilities and emphasizes a strengths-based and socially constructed model of disability that places the onus of change and improvement on the educational environment instead of on the child. Social constructivism and communities of practice emphasize the importance of socially constructed knowledge, therefore providing support for teachers' use of CPS to address barriers to inclusion.

CHAPTER 3: RESEARCH DESIGN AND METHODS

Overview of Study

Education is a well-established human right for all. Nevertheless, "although the right to quality education applies to all children, many children are still excluded from or within education systems" (Save the Children, 2016, p. 6). Schools have made considerable progress as they work to improve quality and access to education for exceptional learners. Even so, significant barriers remain to successful inclusion, and teachers must acknowledge and understand these barriers so they can identify practical solutions in their classrooms and schools (Darrow, 2009). According to Schuelka (2018), "Measuring the success of inclusive education should go beyond merely counting students to evaluate access, but should include measures of educational quality, outcomes, and experiences. Understanding and evaluating teaching practices is also critically important" (p. 2).

Evidence shows that collaboration between teachers can be a highly effective means of improving teacher effectiveness, student outcomes, and inclusive practices (Berry et al., 2009; Ganley et al., 2007; Hamman et al., 2013; Salisbury et al., 1997). The present study examined the effects of CPS on general education teachers' beliefs and attitudes about inclusion and the impact of engaging in CPS on teachers' use of high-quality inclusive practices in the classroom.

Research Design and Intervention

This study used a mixed-methods action research design, specifically a convergent parallel mixed-methods design. Quantitative and qualitative data were collected simultaneously with no priority or weight given to either strand. Strands were kept independent during analysis, and qualitative and quantitative results were mixed during the overall interpretation (Ivankova, 2015). The following question drove this study: How does participating in collaborative problem-solving impact teachers' inclusive instructional practices, teachers' attitudes and beliefs about inclusive education, and teachers' confidence in meeting the needs of exceptional learners?

Table 3.1 Research Question and Data-Collection Tools

Research Question	**Data-Collection Tool**	
How does participating in collaborative problem-solving impact:	**Qualitative**	**Quantitative**
a) Teachers' inclusive instructional practices?	• Observations (pre-, during, and post-intervention)	• High-quality inclusive practices checklist
b) Teachers' attitudes and beliefs about inclusive education?	• Semi-structured one-on-one interview (post-intervention)	• Pre- and post-intervention survey (Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities, Daniels & Vaughn, 1999)
c) Teachers' confidence in meeting the needs of students with disabilities?	• Semi-structured one-on-one interview (post-intervention)	• Pre- and post-intervention survey (Scale of Knowledge and Skills for Instruction and Management of

Students with Disabilities, Daniels & Vaughn, 1999)

Prior to implementing any study, a researcher, especially an action researcher, must examine their positionality and consider issues of these relationships, "since clarity about them is necessary for thinking through issues of research validity or trustworthiness, as well as research ethics" (Herr & Anderson, 2015, p. 37). I am an insider in collaboration with other insiders, but I needed to consider and control for the power relationship between my participants and me as much as possible.

The first step to ensure the voluntary and obligation-free involvement of my participants was to begin with a survey to evaluate their interest in the project. I sent a letter to all 26 PreK to second-grade teachers explaining the action research, delineating the process and time commitment necessary, and seeking volunteer participants. A copy of the letter sent to primary school teachers is included in Appendix A.

Sampling Plan

A critical component of study design is to select the sample through an appropriate sampling strategy. In this study, a typical purposeful sampling strategy was used because "purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned" (Merriam & Tisdell, 2016, p. 95). A typical sample is just that; it "reflects the average person, situation, or instance of the phenomenon of interest" (Merriam & Tisdell, 2016, p. 97). I was interested in examining general education teachers' inclusive practices, which makes a typical sample the most appropriate for my study.

Participants

Participants included seven PreK to second-grade homeroom teachers, which represents approximately 27% of eligible teachers for this study. To participate in the study, teachers were required to meet established criteria, which included being a full-time homeroom teacher or co-teacher in a PreK to second-grade class at the school with exceptional learners (diagnosed according to IDEA's categories of disabilities) enrolled in the class. Additionally, teachers should be able to speak, read, and write proficiently in English. There were no required years of experience and no exclusionary criteria. All teacher participants had a full-time teaching assistant with at least a bachelor's degree in education or psychology working in their classrooms. A description of each participant is provided below.

Amy

Amy was a bilingual PreK teacher with ten years of teaching experience in both general education and special education settings. She earned a specialist degree in special education with a certification in bilingual education. Amy was one of six PreK homeroom teachers at the school during this study, and she taught a total of 20 students, two of whom were identified as exceptional learners, one with a speech and language disorder and the other with a sensory processing disorder and an "other health impairment" diagnosis.

Jennifer

Jennifer was a bilingual homeroom kindergarten teacher with 11 years of teaching experience. She held a master's degree in elementary education. Jennifer taught a class of 22 students and was one of six kindergarten homeroom teachers at the school during the

study. Of her 22 students, one was identified as an exceptional learner with an "other health impairment."

Colin

Colin was a first-grade teacher with nine years of general education teaching experience. He held a master's degree in elementary education. Colin was one of six first-grade homeroom teachers at the school during this study, along with Willow. There were 23 students enrolled in his class, two of whom were identified as exceptional learners, one with a speech and language disorder and the other with a hearing impairment and cognitive delay.

Charlotte

Charlotte had taught for 21 years across multiple grade levels and positions and was one of six second-grade homeroom teachers at the school during this study. She earned a master's degree in elementary education and certifications in gifted and talented education and English as a Second Language. Her classroom consisted of 24 students, four of whom were identified as exceptional learners. Their respective diagnoses include dyslexia, dysgraphia, autism spectrum disorder, and a physical impairment due to a congenital defect.

Candace

Candace was a bilingual second-grade co-teacher with 11 years of teaching experience in special education settings, specifically as a co-teacher. She held a master's degree in speech and language pathology and was a co-teacher in one of the two co-taught second-grade classes out of six classrooms at the school at the time of the study. Candace taught in a classroom with 22 students, seven of whom were identified as

exceptional learners. They qualified under categories such as dyslexia, speech and language disorders, and other health impairment.

Willow

Willow was a bilingual first-grade homeroom teacher with 15 years of teaching experience in the general education classroom. She held a master's degree in elementary education along with a certification in English as a Second Language. She was one of six first-grade teachers at the school during the study. Willow taught in a classroom with 23 students, three of whom were identified as exceptional learners based on a diagnosis of dyslexia and autism spectrum disorder.

Danielle

Danielle was a second-grade homeroom teacher with eight years of teaching experience in the general education classroom. She had a master's degree in elementary education and was one of six second-grade teachers at the school during the study. Danielle's classroom consisted of 18 students, one of whom qualified as an exceptional learner based on their diagnosis of a mild intellectual disability.

Research Setting

The research site was an urban private PreK-12 bilingual school located in Colombia, South America. Colegio Las Montañas (pseudonym) was founded in 1938 with only three staff members and ten students and has grown to become an internationally recognized educational institution serving close to 2,000 students from over 47 different nationalities. All classroom teachers are fully certified, with the majority holding advanced degrees in education. The primary school employs a teaching assistant for all PreK to second-grade classrooms, with at least one co-taught classroom at

each grade level. All teaching assistants are bilingual with degrees in education, psychology, or other related fields. Additional academic support staff include a literacy coach, a math coach, and my role as the intervention specialist/coach.

Colegio Las Montañas has been recognized by multiple entities for its inclusive practices due to the financial investment the school has made in staffing a learning center to serve exceptional learners. The learning center serves students with diagnosed disabilities through a variety of services, including one-on-one support, in-class support, co-taught classrooms, resource rooms, speech and language therapy, occupational therapy, alternative curriculums, and remedial support. Many international and Colombian families come to Colegio Las Montañas specifically for its special education services, as do international teachers who have children with exceptional needs.

Procedures

Once participating teachers volunteered for the study, they were asked to complete the Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities (Daniels & Vaughn, 1999). I also observed participating teachers for a full class period during an academic class of their choice (English, math, science, or social studies) utilizing a narrative observation form and the Heartland Equity and Inclusion Project Quality Inclusion Practices Checklist developed in conjunction with the U.S. Department of Education (Wills et al., 2012).

Prior to implementing the intervention, participating teachers received a half-day (approximately four-hour) training on CPS. The CPS process instruction is modeled after Salisbury et al.'s (1997), which included discussion and role-playing to explain the rationale for inclusive schooling practices; a working knowledge of what physical, social,

and instructional inclusion might look like; and an overview of criteria used to screen potential solutions, which must reflect general principles of equity, concern for others, belonging, and accommodations for individual differences. Finally, participants were taught the five steps of the CPS process, which include identifying the issue, generating possible solutions, screening solutions for feasibility, choosing a solution to implement, and evaluating the solution.

After the training session, the intervention included bimonthly meetings where teachers met to discuss any issues of physical, social, and/or instructional inclusion and work through the 5-step CPS process. I participated in each of these formal sessions, where I acted as coach and guide and documented the topics discussed and fidelity to the CPS process. Each session was audio-recorded and transcribed, and narrative observations were also made.

After six formal sessions, the intervention was concluded. A post-intervention observation occurred, again using the same format and checklist as the previous observation. All teachers again completed the Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities and participated in a one-on-one semi-structured interview that was audio-recorded and transcribed. A detailed description of the timeline can be found in Table 3.

Table 3.1 Study Timeline

Week	**Activity**
Week 1	• Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities pre-intervention survey distributed • Pre-intervention classroom observations
Week 2	• Pre-intervention classroom observations
Week 3	• Pre-intervention survey handed in prior to beginning training

	• CPS process instruction (half-day training)
Week 4	• Formal CPS session 1
Week 6	• Formal CPS session 2
Week 8	• Formal CPS session 3
Week 10	• Formal CPS session 4
Week 12	• Formal CPS session 5
Week 13	• Post-intervention classroom observation (1)
Week 14	• Formal CPS session 6 • Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities post-intervention survey distributed
Week 15	• Post-intervention classroom observations (3)
Week 16	• Post-intervention classroom observations (3)
Week 17	• Semi-structured one-on-one interviews • Post-intervention survey handed in prior to beginning interviews
Week 18	• Semi-structured one-on-one interviews • Post-intervention survey handed in prior to beginning interviews

Data-Collection Measures, Instruments, and Tools

I used four predominant data-collection methods in this study: surveys, observations, field notes and interviews. A copy of each instrument can be found in the appendix.

Survey

Vera Daniels and Sharon Vaughn (1999) developed the Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities (Appendix B) to provide a scale of key teaching attributes that could be used to examine general classroom teachers' perceptions of knowledge and skills (abilities) for providing effective instruction to students with disabilities; assist in the development and implementation of

more effective inclusionary practices; and provide principals, administrators, policymakers, and other key stakeholders with indicators of programmatic and professional development needs of pre-service and in-service teachers (p. 48).

They first began by examining the Council for Exceptional Children's (CEC's) Common Core, which was developed and validated by the CEC's Professional Standards and Practice Committee (PSPC). The CEC Common Core "defines the minimum essential knowledge and skills necessary for entry into professional practice in special education" (Daniels & Vaughn, 1999, p. 48). After examining the eight components, they selected instructional content and practice, planning and managing the teaching and learning environment, and managing student behavior and social interaction skills as the three core components to include in the scale.

The scale was then examined by three nationally recognized scholars and researchers who provided feedback on content, relevance, and clarity. It was then piloted with a group of 10 general education teachers, who suggested revisions primarily on the demographic section. With these new revisions, the three panel members reexamined the scale and then it was once again piloted with a group of 28 general education teachers who field-tested it (Daniels & Vaughn, 1999). The scale includes five parts: demographic information, instructional practice and content, planning and managing the teaching and learning environment, managing student behavior and social interaction skills, and comments.

Part 1, which collects demographic information, includes 15 checklist items that address teachers' professional training, area(s) of certification, present teaching level, years of teaching experience, and prior training on inclusion. Part 2, instructional practice

and content, consists of 20 items rated on a 5-point Likert scale where teachers respond to their perceived knowledge and skills in the area of "instructional practice and content" as it relates to exceptional learners. It includes items such as learning styles, curriculum development, using assessment data, integrating social skills, developing rapport, and conducting and using task analysis, among others. Part 3, planning and managing the teaching and learning environment, asks teachers to respond to ten items, also on a 5-point Likert scale, on knowledge and skills in "planning and managing the teaching and learning environment" as it relates to exceptional learners. It includes items such as classroom management, research-based best practices, preparing and organizing materials, and using technology, among others. Part 4, managing student behavior and social interaction skills, addresses knowledge and skills in "managing student behavior and social interaction skills" as it relates to exceptional learners with items such as ethical considerations, effective social skills instruction, identifying realistic expectations, and modifying the learning environment, among others. There are 12 items in this section measured via a 5-point Likert scale. Finally, Part 5 provides a space for comments as an open-ended section allowing for teacher reflection and any other additional information they would like to provide that was not previously addressed.

This survey was administered to teachers prior to the intervention and again at the end of the intervention. All participants received paper copies during Week 1 and returned them prior to the training session. They received the surveys again in Week 14 at the final CPS session, and all participants turned them in prior to the interviews.

Classroom Observations and Quality Inclusion Practices Checklist

Classroom observations occurred twice during the study, pre-intervention and post-intervention, for all participants except for two. The final CPS session was delayed when I got COVID. As we were approaching the end of the school year, I was concerned about completing all observations within the remaining time frame and being able to observe an academic class and not just end-of-year activities. Thus, the post-intervention observation of two participants occurred prior to the final session. Observations included a running narrative that identified classroom organization, materials, grouping, topics, and standards addressed, as well as other general observations. A second component of the observation included the Quality Inclusion Practices Checklist, which was developed though the Heartland Equity and Inclusion Project and supported by the U.S. Department of Education's Office of Special Education Programs (Wills et al., 2012). It was designed to assess the quality inclusive practices utilized in early childhood classrooms based on access, participation, and supports, which are defined as high-quality inclusive practices by the National Association for the Education of Young Children (NAEYC, 2009). Only the areas of access and participation were examined, as the area of support evaluates strategies that occur outside the classroom, such as professional development, incentives for inclusion, and opportunities for collaboration and communication. Access evaluates if a wide range of activities and environments is provided for every child and if strategies supporting access include the removal of physical barriers and promote learning and development in multiple ways. This section includes 14 items based on universal design for learning. Participation evaluates if a range of instructional approaches that support engagement and a sense of belonging in play and learning activities for all children is

evident. This section includes 16 items evaluating embedded instruction, naturalistic interventions, scaffolding strategies, and tiered models of instruction. The checklist identifies which and how many high-quality inclusive practices were utilized and then compared between the pre- and post-intervention observations.

The practices included on the checklist were determined to be high-quality based on a variety of best practices sources. The NAEYC, a well-recognized organization for best practices in early childhood, released a position statement on best practices in early childhood inclusion. This position statement is rooted in developmentally appropriate practices "based on a synthesis of current research and evidence across multiple disciplines" (NAEYC, 2020, p. 4). Additional sources include the What Works brief training kits from Vanderbilt's Center on the Social and Emotional Foundations for Early Learning and the Center for Applied Special Technology (CAST), an organization that helps "educators and organizations apply insights from the learning sciences and leading-edge practices to educational design and implementation" (CAST, 2022, para. 1).

Collaborative Problem-Solving Sessions

The six CPS sessions occurred after school hours and were audio-recorded, transcribed, and accompanied by researcher field notes. Each session lasted approximately one hour. After each formal CPS session, implementation fidelity was evaluated with participating teachers' assistance by checking each step of the session with the 5-step process identified by Salisbury et al. (1997). All sessions met implementation fidelity, as all five steps from the CPS process were present in each session.

Semi-Structured Interviews

At the completion of the intervention and after the final observation, I conducted a semi-structured one-on-one interview with each teacher participant. Interviews lasted around 20 to 40 minutes. A semi-structured interview includes a mix of more- and less-structured questions and allows for flexibility in the interview process. While specific information is desired from the participants and a structured component is included, the format allowed me to respond to each individual and their answers with ease (Merriam & Tisdell, 2016). A list of guiding interview questions can be found in Appendix C.

Data-Analysis Methods

"Data analysis is the process of making sense out of the data" (Merriam & Tisdell, 2016, p. 2001); in other words, it is the way we answer our research questions. The following is a description of how the qualitative and quantitative data were analyzed to answer the question guiding this action research study: How does participating in collaborative problem-solving impact teachers' inclusive instructional practices, teachers' attitudes and beliefs about inclusive education, and teachers' confidence in meeting the needs of exceptional learners?

Quantitative Data

The quantitative data utilized in this study consisted of high-quality inclusive practices noted on the checklist used during pre- and post-intervention participant observations and the results of the pre- and post-intervention Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities. Data were analyzed using descriptive statistics, specifically measures of central tendency. I compared the means, medians, and modes of the number of inclusive practices I observed over the two

observation sets to determine if there was any change in the type or quantity of practices utilized. The Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities utilizes a Likert scale and was also analyzed using descriptive statistics to determine the mean, median, and mode for each individual question, as well as for groups of questions from the same category or section of the questionnaire.

Qualitative Data

Just as one would analyze the numbers from quantitative data collected, researchers must analyze and make sense of qualitative data, which can be done through qualitative coding. Codes "take segments of data apart, name them in concise terms, and propose an analytic handle to develop abstract ideas for interpreting each segment of data" (Charmaz, 2014, p. 45). This action research study employed initial coding to break the data down into discrete parts so I could then closely examine and compare it to find similarities and differences (Strauss & Corbin, 1998). The goal for this type of coding was to "remain open to all possible theoretical directions that [were] suggested by [my] readings of the data" (Charmaz, 2014, p. 46). Initial coding within the context of grounded theory has two main phases. The first phase sought to "name each word, line, or segment of data" (Charmaz, 2014, p. 46), as this is more "suitable for interview transcripts" (Saldaña, 2021, p. 149). I accomplished this by going sentence-by-sentence through each interview transcript and breaking them down into discrete parts. The second phase was a more "focused [and] selective phase that uses the most frequent initial codes to sort, synthesize, integrate, and organize" the gathered data (Charmaz, 2014, p. 46). During this phase, I analyzed the discrete parts and compared them for similarities and differences across participants and then organized them into "clusters that suggested

categories of belonging" (Saldaña, 2021, p. 140). This coding procedure was applied to the data gathered from the semi-structured interviews to answer the guiding research question.

Validity and Reliability

Careful attention must be paid to a study's conceptualization and the collection, analysis, interpretation, and presentation of data to ensure its readers of both its validity and reliability (Merriam & Tisdell, 2016). Two types of triangulation were employed in this mixed-methods action research study: multiple methods and multiple sources of data (Merriam & Tisdell, 2016). The conclusions drawn from the data analysis were supported by multiple methods of data collection, including observations, interviews, checklists, and other documents, as well as through the use of both quantitative and qualitative data to explore the same phenomenon. Merriam and Tisdell (2016) contend, "Triangulation through multiple sources of data means comparing and cross-checking data collected through observations at different times or in different places, or interview data collected from people with different perspectives or from follow-up interviews with the same people" (p. 245). In this study, observations were completed at two points throughout the study and interviews were done with a variety of people who may have held different perspectives.

Conclusion

This mixed-methods action research study collected a variety of data to examine the impact of CPS on general education teachers' inclusive practices. Utilizing both quantitative and qualitative data provided a more comprehensive and complete picture of the intervention's impact. Additionally, data triangulation via multiple methods and

multiple sources of data enhanced the study's credibility. This action research design was formulated based on the guiding research question: How does participating in collaborative problem-solving impact teachers' inclusive instructional practices, teachers' attitudes and beliefs about inclusive education, and teachers' confidence in meeting the needs of exceptional learners?

CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA

Overview of the Study

With an increasing number of exceptional learners included in the general education classroom, it is critical to prepare teachers for the specific challenges inclusion brings (Rosenzweig, 2009). Utilizing a CPS process, this mixed-methods action research study aimed to increase teachers' use of high-quality inclusive practices, improve their attitudes about inclusion, and increase their confidence in meeting exceptional learners' needs. This study was conducted across seven classrooms in PreK through second grades, with each classroom consisting of at least one identified exceptional learner. The data collected and analyzed included pre- and post-intervention classroom observations examining teachers' use of high-quality inclusive practices; a pre- and post-intervention survey measuring teachers' attitudes, confidence, and self-identified skills and knowledge in teaching exceptional learners; field notes from six formal CPS sessions; and semi-structured one-on-one post-intervention interviews conducted with all participants. In this chapter, I present the findings to the research question that guided this study: How does participating in collaborative problem-solving impact teachers' inclusive instructional practices, teachers' attitudes and beliefs about inclusive education, and teachers' confidence in meeting the needs of exceptional learners?

Intervention and Data Collection

I conducted this study over the course of 18 weeks from early February to mid-June 2022. The CPS intervention occurred during 12 of those weeks, where teachers met every other week to discuss inclusion-related problems occurring in their classrooms. Quantitative data, including the knowledge and skills survey and high-quality inclusive practices checklist, were collected before and after the intervention and analyzed using TIBCO Spotfire, artificial intelligence-based analytical software. Qualitative data were collected during the intervention in the form of field notes and after the intervention in the form of semi-structured interviews with all seven participants.

Results

The findings from this study are based on the data collected from four different sources, both quantitative and qualitative. Results from the quantitative data sources will be presented first. The analysis of this data includes descriptive statistics and graphic representations of the data, as well as summary narratives, which are followed by results from the qualitative data, including a description of the coding process and a discussion of the resulting themes.

Quantitative Findings

Scale of Knowledge and Skills

The Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities was given to all participants pre- and post-intervention. Participants received and completed the survey during Week 1 of the study and returned their responses prior to beginning the first formal CPS session. Data from the pre-intervention survey were used to establish a baseline of participants' perceived self- knowledge and

skills in the areas of inclusive content and practice, planning and managing the teaching and learning environment, and managing student behavior and social skills instruction. Participants again completed the scale during the final two weeks of the study after the completion of the final CPS session and returned their responses prior to the post-intervention interview. I compared results from the post-intervention survey to the baseline responses and examined them for changes in participants' responses. Then, I entered the pre- and post-intervention responses into TIBCO Spotfire for further analysis.

This survey includes three domains. Within the instructional content and practice domain, there are five knowledge-based questions and 15 skills-based questions. Results from the knowledge-based questions demonstrate that teachers improved by an average of 0.71 points, with a range of 0.34- to 1.14-point increases between the pre- and post-surveys. Figure 4.1 and Table 4.1 demonstrates these results.

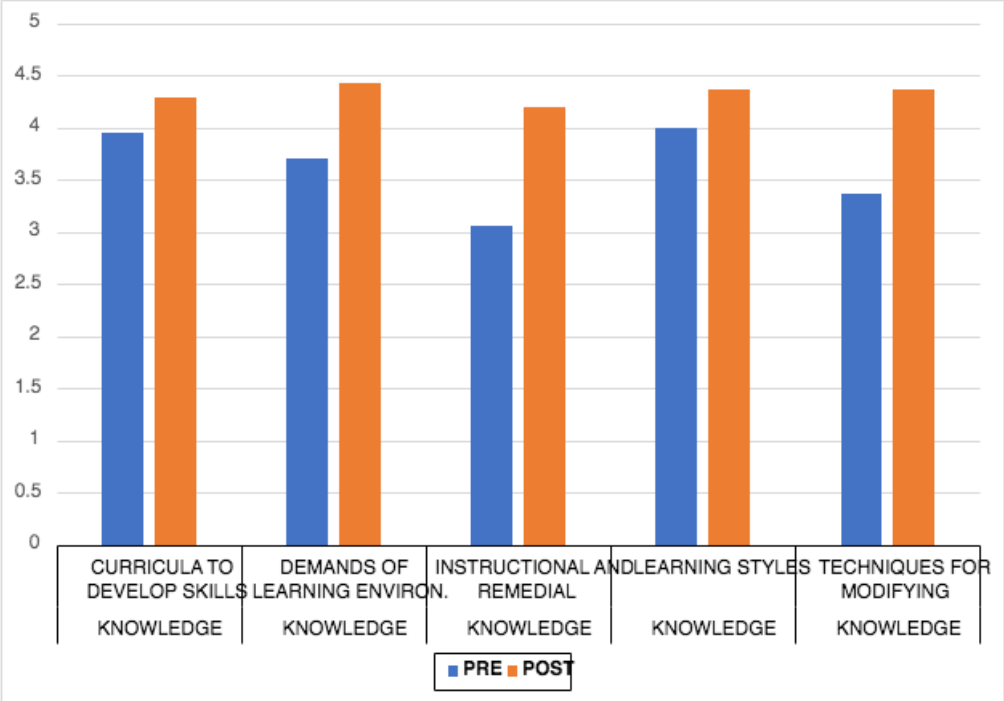

Figure 4.1 Instructional Content and Practice: Knowledge-Based Questions

Table 4.1 Instructional Content and Practice: Knowledge-Based Questions

Knowledge	Pre	Post	Change
Curricula to develop skills	3.95	4.29	+0.34
Demands of learning environment	3.71	4.43	+0.72
Instructional and remedial techniques	3.05	4.19	+1.14
Learning styles	4.00	4.36	+0.36
Techniques for modifying curriculum	3.36	4.36	+1.00

Results from the skills-based questions demonstrate that teachers improved by an average of 0.50 points (on a 5-point scale), with a range of 0.14- to 1.15-point increases between the pre- and post-surveys. Figure 4.2 and Table 4.2 demonstrate these results. The combined average increase for both knowledge and skills within this domain was 1.21 points. Participants' perceptions increased the most related to Strategies for Generalization. While still demonstrating an increase from pre- to post-survey, participants' perceptions changed the least in Communication Techniques, Instructional Strategies and Materials, and Using Data in Planning.

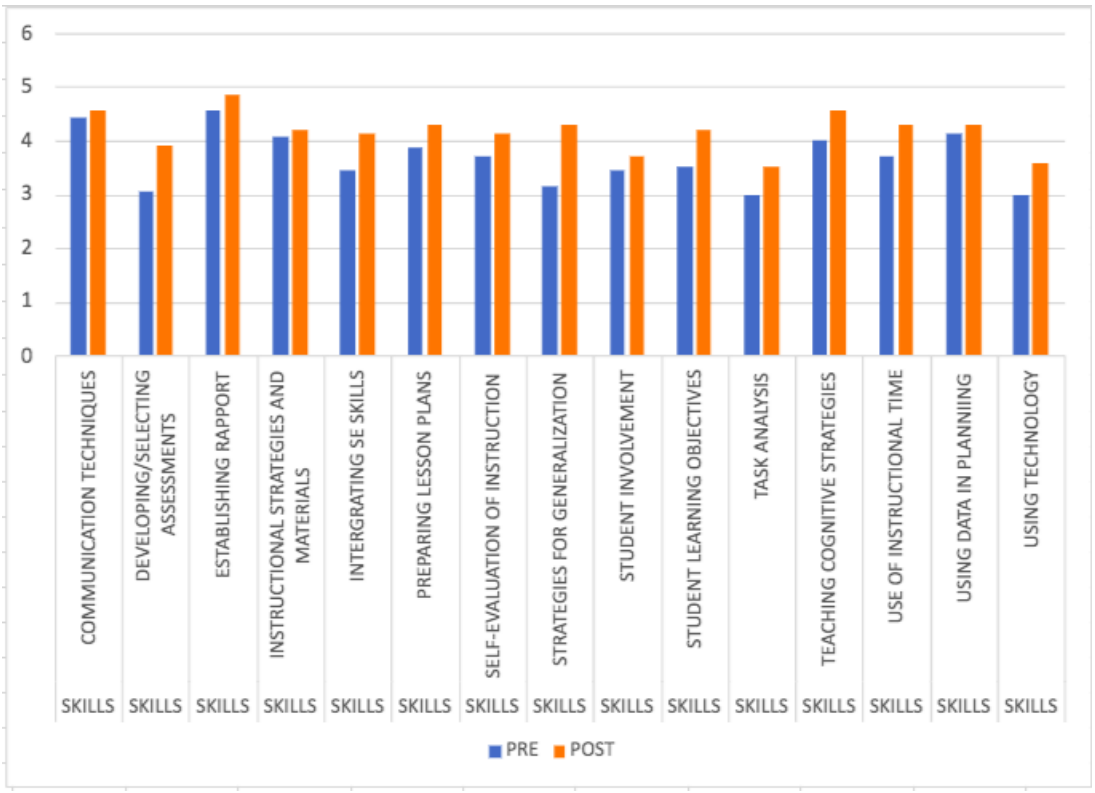

Figure 4.2 Instructional Content and Practice: Skills-Based Questions

Table 2.2 Instructional Content and Practice Skills

Skills	Pre	Post	Change
Communication techniques	4.43	4.57	+ 0.14
Developing and selecting assessments	3.05	3.91	+ 0.86
Establishing rapport with students	4.57	4.86	+ 0.29
Instructional strategies and materials	4.05	4.19	+ 0.14
Integrating social and affective skills	3.43	4.14	+ 0.71
Preparing lesson plans	3.86	4.29	+ 0.43
Self-evaluation of instruction	3.71	4.14	+ 0.43
Strategies for generalization	3.14	4.29	+ 1.15

Student involvement	3.43	3.71	+ 0.28
Student learning objectives	3.52	4.19	+ 0.67
Conducting and using task analysis	3.00	3.50	+ 0.50
Teaching cognitive strategies	4.00	4.57	+ 0.57
Adequately using instructional time	3.71	4.29	+ 0.58
Using data in planning	4.14	4.29	+ 0.14
Using technology	3.00	3.57	+ 0.57

Within the second domain, planning and managing the teaching and learning environment, there are three knowledge-based questions and seven skills-based questions. Results from the knowledge-based questions indicate that teachers improved by an average of 0.93 points (on a 5-point scale), with a range of 0.71- to 1.28-point increases between pre- and post-survey results. Figure 4.3 and Table 4.3 demonstrate these results.

Figure 1.3 Planning and Managing the Teaching and Learning Environment: Knowledge-Based Questions

Table 4.3 Planning and Managing the Teaching and Learning Environment: Knowledge-Based Questions

Knowledge	Pre	Post	Change
Basic classroom management for exceptional learners	3.10	3.9 0	+0.80
Research-based best practices	3.29	4.57	+1.28
Technology for classroom management	3.00	3.71	+0.71

Results from the skills-based questions indicate that teachers improved by an average of 0.86 (on a 5-point scale), with a range of 0.28- to 1.15-point increases between the pre- and post-surveys. These results are demonstrated in Figure 4.4 and Table 4.4. The combined average increase for both knowledge and skills within this domain was 1.57 points.

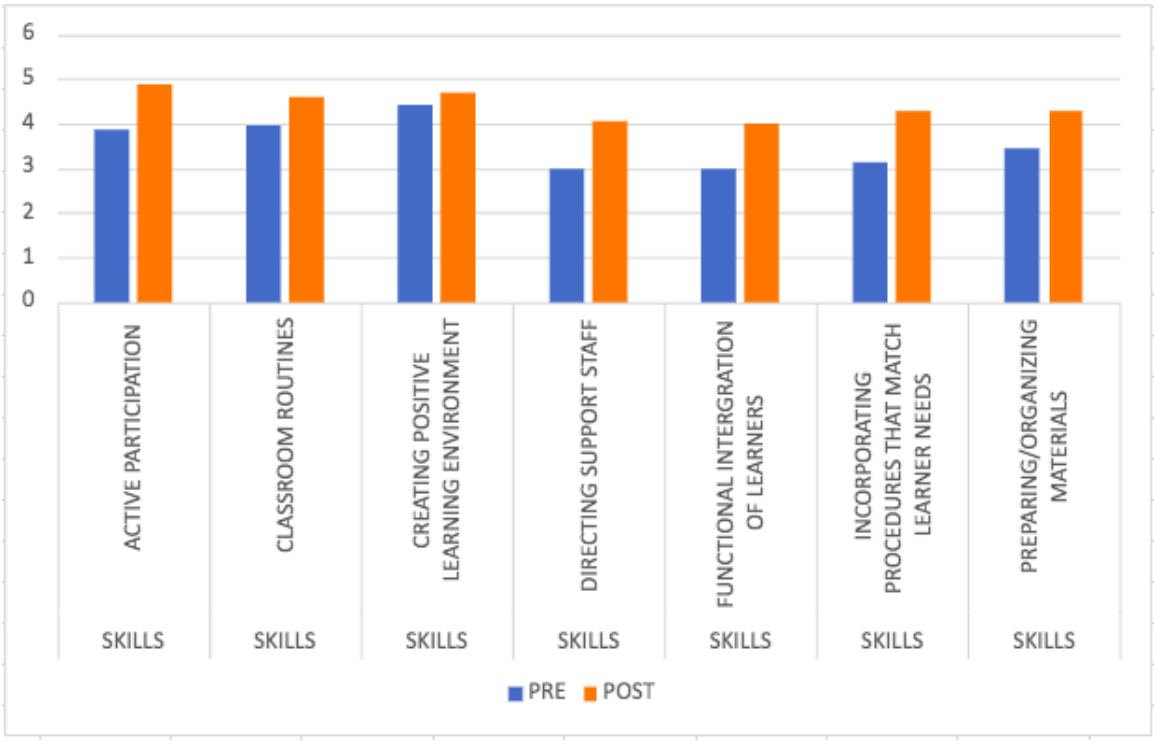

Figure 4.4 Planning and Managing the Teaching and Learning Environment: Skills-Based Questions

Table 4.4 Planning and Managing the Teaching and Learning Environment: Skills-Based Questions

Skills	Pre	Post	Change
Active participation	3.86	4.86	+1.00
Classroom routines	3.95	4.62	+0.67
Creating a positive learning environment	4.43	4.71	+0.28
Directing support staff	3.00	4.05	+1.05
Functional integration of learners	3.00	4.00	+1.00
Incorporating procedures that match learner needs	3.14	4.29	+1.15
Preparing and organizing materials	3.43	4.29	+0.86

The final domain of managing student behavior and social skills instruction included five knowledge-based questions and seven skills-based questions. Results from the knowledge-based questions indicate that teachers improved by an average of 0.84 points, with a range of 0.36- to 1.29-point increases between the pre- and post-surveys. These results are demonstrated in Figure 4.5 and Table 4.5.

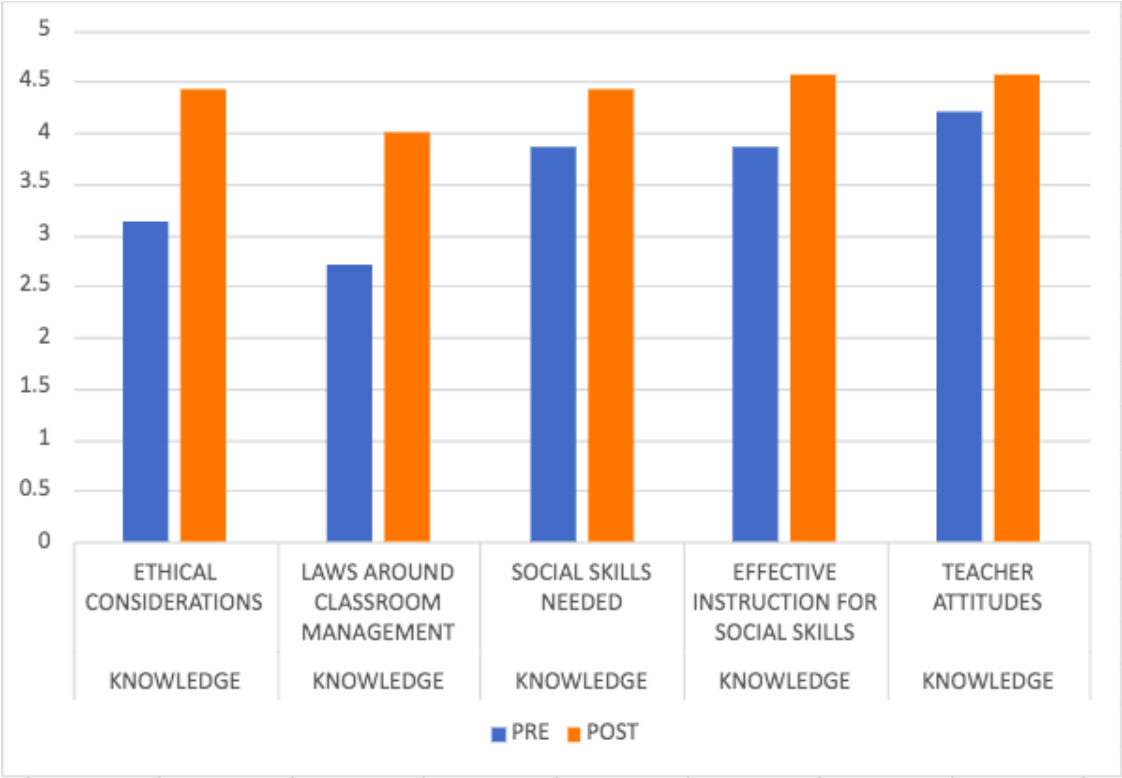

Figure 4.5 Managing Student Behavior and Social Skills Instruction: Knowledge-Based Questions

Table 4.5 Managing Student Behavior and Social Skills Instruction: Knowledge-Based Questions

Knowledge	Pre	Post	Change
Ethical considerations	3.86	4.86	+1.00
Laws around classroom management	3.95	4.62	+0.67
Social skills needed	4.43	4.71	+0.28

Effective instruction for social skills	3.00	4.05	+1.05
Teacher attitudes	3.00	4.00	+1.00

Results from the skills-based questions indicate that teachers improved by an average of 0.78 points, with a range of 0.43- to 1.15-point increases between the pre- and post-surveys. These results are demonstrated in Figure 4.6 and Table 4.6. The combined average increase for both knowledge and skills within this domain was 1.62 points.

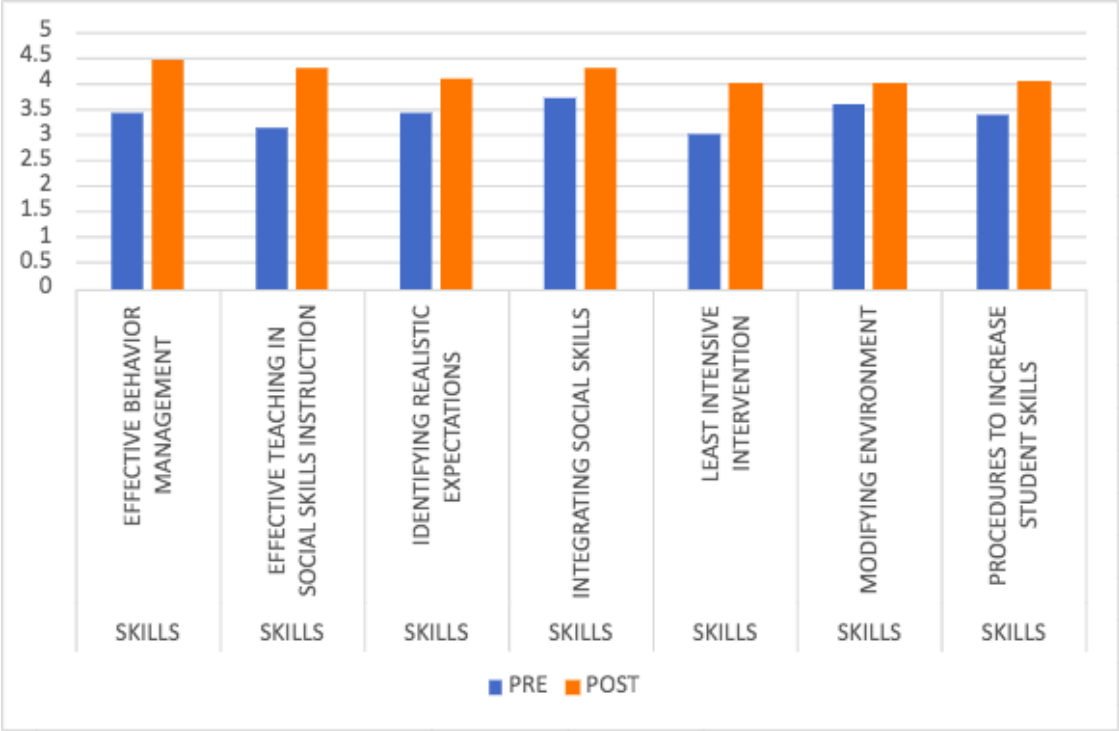

Figure 4.6 Managing Student Behavior and Social Skills Instruction: Skills-Based Questions

Table 4.6 Managing Student Behavior and Social Skills Instruction: Skills-Based Questions

Skills	Pre	Post	Change
Effective behavior management	3.43	4.43	+1.00
Effective teaching in social skills instruction	3.14	4.29	+1.15
Identifying realistic expectations	3.43	4.07	+0.64
Integrating social skills instruction	3.71	4.29	+0.58
Least intensive instruction	3.00	4.00	+1.00
Modifying environment	3.57	4.00	+0.43
Procedures to increase student skills	3.39	4.04	+0.65

Classroom Observations

Pre- and post-intervention classroom observations were conducted and consisted of two domains: access and participation. Fourteen possible practices could be observed within the access domain and 16 possible practices could be observed within the participation domain. The number in the pre-column indicates how many teachers utilized that practice during the pre-intervention observation and the post-column indicates how many teachers utilized the practice during the post-intervention observation. For individual changes see Figure 4.8. Within the access domain, results indicate that the number of high-quality inclusive practices observed being utilized by teachers increased by an average of 1.80 between the pre- and post-observations. While overall an increase in the number of high-quality inclusive practices was observed in both domains, some practices were not observed to increase e.g., “high tech” supports and

tolerance for error, however, there was no decrease in the number of high-quality inclusive practices observed. These results are demonstrated in Figure 4.7 and Table 4.7.

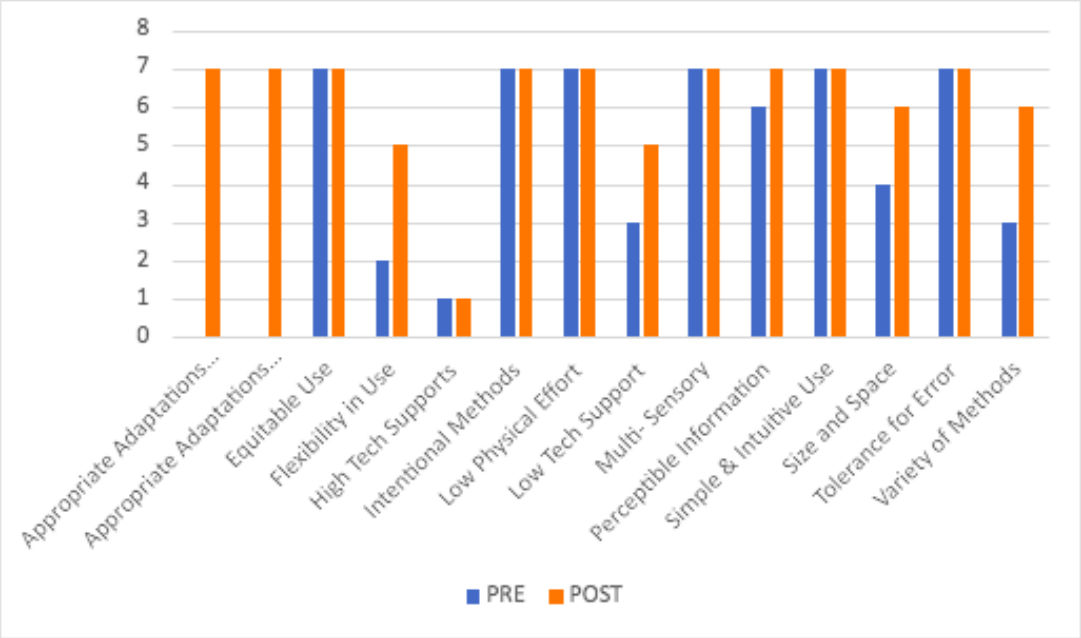

Figure 4.7 High-Quality Inclusive Practices: Access

Table 5.7 High-Quality Inclusive Practices: Access

Access Inclusive Practice	Pre	Post
Adaptations provided are appropriate to the child's strengths and challenges.	0	7
Appropriate adaptations are provided across daily routines and activities.	0	7
Equitable use: Each child's language, culture, and unique abilities are taken into account through environmental design and materials.	7	7
Flexibility in use: The unique needs of each child are supported through varied uses of environmental design and materials.	2	5
"High-tech" supports, such as augmented or alternative communication devices, are used.	1	1

Intentional teaching methods and strategies are used to engage children.	7	7
Low physical effort: Minimal physical effort is needed to interact with the environment and materials.	7	7
"Low-tech" supports, such as laminated picture boards or pencil wedges, are used.	3	5
Multi-sensory ways to support different styles of learning are used to present information and content.	7	7
Perceptible information: How to use space and materials, as well as environmental expectations, are clearly communicated.	6	7
Simple and intuitive use: Children can easily understand and use environmental design and materials.	7	7
Size and space for approach and use: Children's interactions with the environment and materials are based on unique abilities, interests, and goals.	4	6
Tolerance for error: Children are successful when interacting with the environment and materials.	7	7
Children demonstrate and express ideas and learning using a variety of methods.	3	6

Within the participation domain, results indicate that the number of practices observed being implemented by teachers increased by an average of 0.70 between pre- and post-observations. These results are demonstrated in Figure 4.8 and Table 4.8.

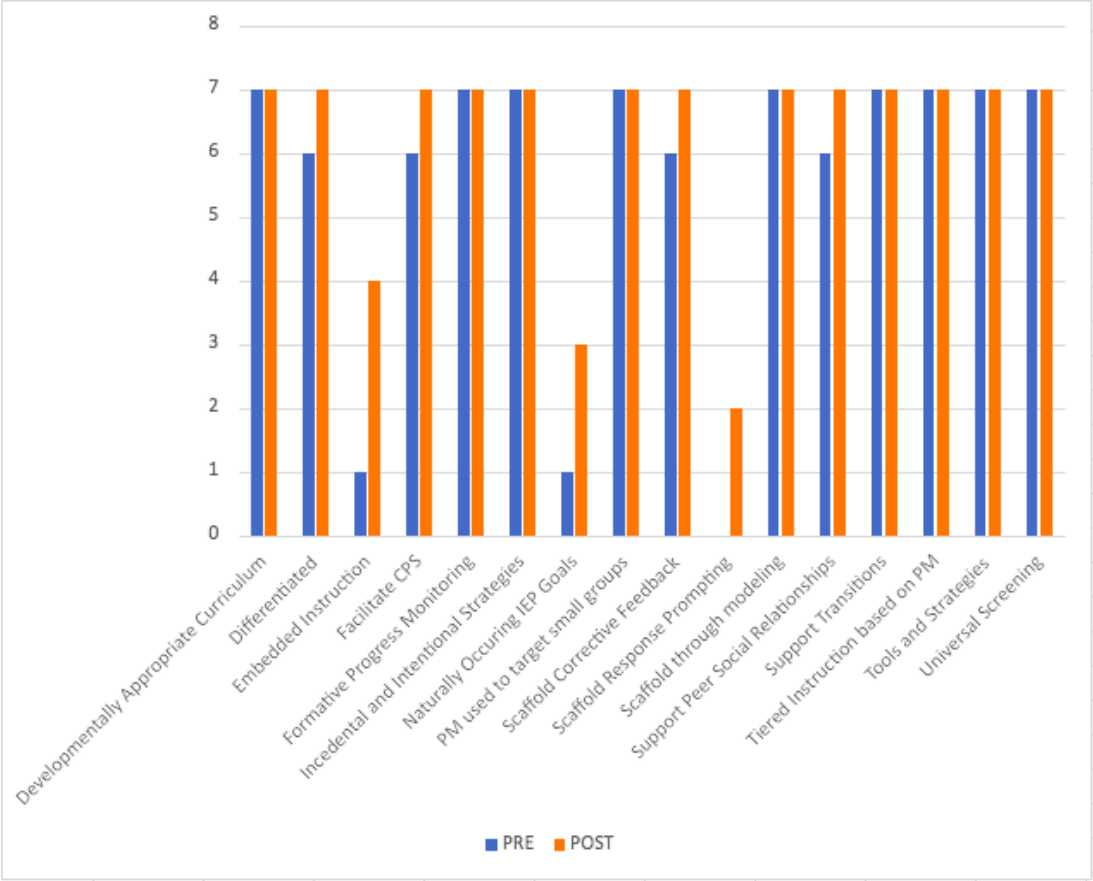

Figure 4.8 High-Quality Inclusive Practices: Participation

Table 4.8 High-Quality Inclusive Practices: Participation

Participation Inclusive Practice	Pre	Post
Instruction utilizes a developmentally appropriate, research-based curriculum.	7	7
Instruction is differentiated according to children's needs, backgrounds, preferences, and differences.	6	7
Embedded instruction is distributed within regular activities and routines.	1	4
Practitioners facilitate collaborative problem-solving between children.	6	7
Formative progress monitoring is completed to gather the information needed to guide instruction.	7	7

Practitioners use both incidental and intentional teaching methods.	7	7
Daily, naturally occurring activities and routines support individual learning goals from the individualized education plan (IEP).	1	3
Progress monitoring results are used to target small groups that need additional instruction.	7	7
Practitioners scaffold children's language, play, and activities through provision of corrective feedback.	6	7
Practitioners scaffold children's language, play, and activities with appropriate use of response-prompting strategies.	0	2
Practitioners scaffold children's language, play, and activities with appropriate use of modeling.	7	7
Practitioners support peer social relationships.	6	7
Practitioners use techniques to support children's successful transitions between activities.	7	7
Intensive, explicit, systematic, individualized instruction is based on progress monitoring.	7	7
Tools and strategies are used to support each child's meaningful engagement in the classroom community.	7	7
Formative universal screening is completed periodically on all children in a classroom or program to monitor their development and learning.	7	7

An analysis of the pre- and post-observations reveals that all teachers showed an increase in the number of high-quality inclusive practices they used. However, some teachers demonstrated a larger increase than others, with Charlotte and Jennifer demonstrating the biggest change pre- and post-observation, with an increase of eight. Additionally, the teacher that showed the smallest change was Danielle, with an increase of one. The highest increase in the use of inclusive practices was observed in the participant with the greatest years of experience (Charlotte with 21 years of experience)

and the median years of experience (Jennifer with 11 years of experience). The participant with the smallest increase in the use of high-quality inclusive practices was also the participant with the least years of experience (Danielle with 8 years of experience). While the highest and smallest increase in the use of inclusive practices was observed in the participants with the most and least years of experience respectively, there does not otherwise appear to be a relationship between years of experience and the change in the number of inclusive practices observed. Willow, who was the second most experienced teacher in the study, with 15 years of experience, increased the number of inclusive practices observed by three. Colin and Amy, who were two of the other least experienced teachers comparatively, demonstrated an increase of four (Colin) and six (Amy) observed inclusive practices. The results of each teacher's use of high-quality inclusive practices observation pre- and post-intervention are demonstrated in Figure 4.9 and Table 4.9.

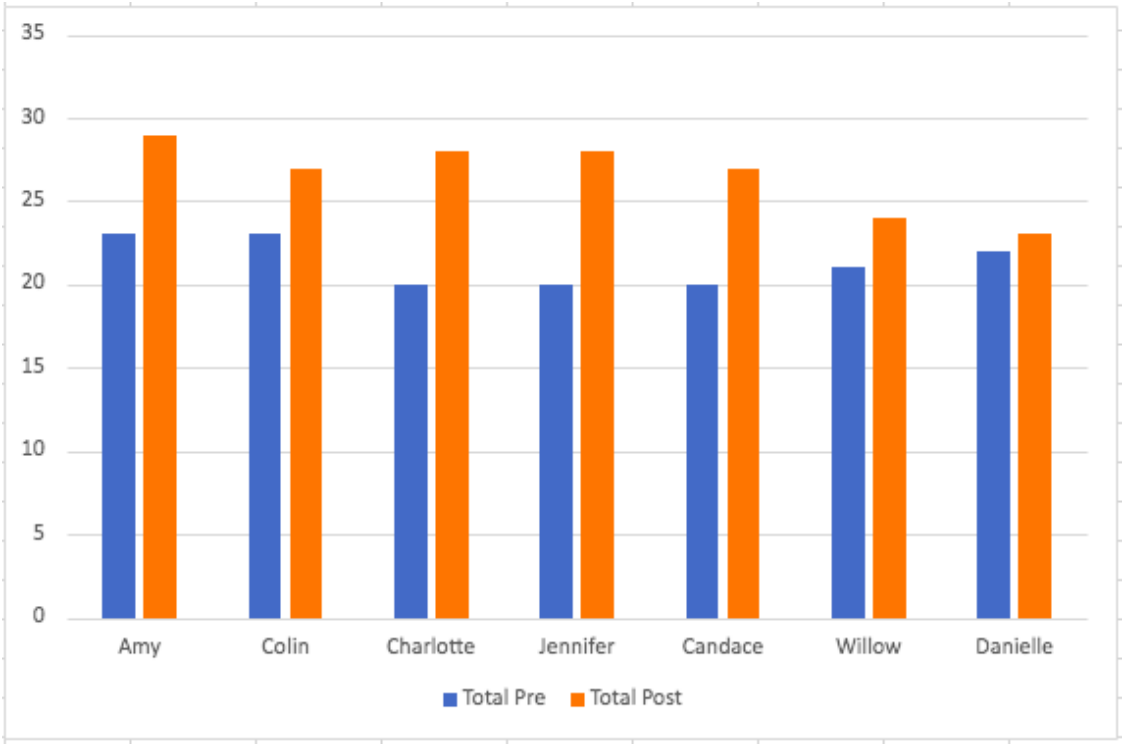

Figure 4.9 Use of High-Quality Inclusive Practices across Teachers

Table 4.9 Use of High-Quality Inclusive Practices across Teachers

Participant	Total Pre	Total Post	Change
Amy	23	29	+6
Colin	23	27	+4
Charlotte	20	28	+8
Jennifer	20	28	+8
Candace	20	27	+7
Willow	21	24	+3
Danielle	22	23	+1

Qualitative Findings

Post-Intervention Interview Coding Process

Each semi-structured one-on-one interview was conducted face-to-face and was audio-recorded and transcribed. Interviews were conducted after the final CPS session and the post-intervention observation; each lasted between 20 and 40 minutes. During the initial coding process, I examined participants' responses to each question and began looking for developing themes. These in vivo codes, which were derived "from the actual language found" (Saldaña, 2021, p. 137) in the interview transcripts, were then grouped based on "conceptual ideas that bring together related passages of data" (Saldaña, 2021, p. 151). This initial grouping resulted in ten focused codes, which after further reflection and examination resulted in the final three themes: 1) collaborating, 2) thinking about the

future, 3) reflecting and changing. Table 4.10. 4.11, and 4.12 provide an example of this process for each focused code.

Table 4.10 Examples of Data for Focused Code: Collaborating

Raw Data	Initial Codes
Willow: "I really loved the collaboration process. It was a great way to solve the problems that each of us faces in our individual classes. And we never have time really to get together to talk. And it was a time to get together."	Collaboration process Time together to talk
Candace: "It just made me realize how much I missed that presential time with people to just talk about, like, what's not working and also what's working right."	Presential time with people Talk about what's working
Amy: "I enjoyed collaborating and hearing other people's ideas about the things that they're experiencing, because it's very different from mine."	Enjoyed collaborating Hearing other ideas
Charlotte: "I believe in collaboration between teachers, and we don't get enough time for some of that. So, I thought that this was a really good opportunity because, you know, more minds are better than one mind when it comes to addressing issues of inclusion especially."	Collaboration between teachers More minds are better
Colin: "I think it's something that maybe we need to do more often because if we have the time for it, then it's nice to always work and, like, collaborate with others to find solutions."	Time for collaboration
Danielle: "I really enjoyed listening to the other situations and problems that other teachers were encountering in the other rooms, and I really enjoyed the collaboration piece of helping problem-solve using inclusive practices and also the process of brainstorming through those inclusive practices."	Listening to other teachers Collaboration to help problem-solve
Jennifer: "It's always helpful to talk something out with someone who is in your field. And it's sometimes nice to get points of view of people from other grades, which we usually don't get the chance to do."	Talk something out with someone Points-of-view from others

Table 4.11 Examples of Data for Focused Code: Thinking about the Future

Raw Data	Initial Codes
Willow: “I don’t think next year ''m necessarily ready for it, but I believe, like, in two years, if I keep doing [CPS], I’m going to ask to be a co-teacher.”	In two years becoming a co-teacher
Candace: “I'm already starting to think about how I can do this next year with my team using the same model that you did.”	Next year with my team
Amy: “If I’m just thinking about next year and, like, how can we support them, you know, like, potentially just thinking forward about, like, how to be creative to kind of make it inclusive and serve everyone’s needs.”	Thinking about next year Thinking forward
Charlotte: “I really wish that here at school we had more time built in for collaboration and collaborative problem-solving.”	Wishing for change
Colin: “I think it’s something we would benefit from doing, like, schoolwide obviously, but, like, that’s far down the road. But, like, maybe we can start small like we did here, voluntary groups and build it to two voluntary groups next year and then one per grade level.”	Doing this schoolwide Down the road Building the process
Danielle: “It would be good to maybe have once a month that kind of collaborative practice, even with you, a conversation with colleagues. But if that could be implemented here, even maybe you coordinating that where there’s some sort of conversation with the same kind of procedure that we did, the process that we followed, that would be wonderful, and I think it’d be really helpful to other teachers here, as well.”	Good to have once a month Implemented here Helpful to other teachers
Jennifer: “I think the way we did it would work really well next year with the grade-level teams and maybe it could be part two of team meetings.”	Next year with grade-level team meetings

Table 4.12 Examples of Data for Focused Code: Reflecting and Changing

Raw Data	Initial Codes
Willow: “I was able to see throughout this process how teachers can work with students with learning or physical	Seeing things differently

disabilities or whatever, and how important it is to include them."	
Candace: "It just kind of reminded me that inclusion is like a forever process and that, you know, we're never going to just get it perfect because of the way that things are designed from the beginning. It just kind of further reminded me that inclusion work has to be sustained and consistent and intentional and we can't take it for granted."	Reminded me of what is needed Reminded me to be intentional
Amy: "You can have all the tools, but if you're not being thoughtful and taking time to reflect, you're not going to be intentional about how you're using all you know."	Being thoughtful Taking time to reflect
Charlotte: "But now I do think I'm more open to more extensive inclusion, especially for kids with significant disabilities or special abilities. I understand that it can be difficult, but I think that I'm more open to making sure they are in our classroom in the least restrictive environment as long as possible in a school day."	Becoming more open
Colin: "Just, like, opening your eyes to what inclusion really means and what it looks like and what it looks like when it's not happening. What it looks like when it is happening, how it positively impacts the students when it is happening, how it negatively impacts students when it's not happening."	Opening your eyes Understanding inclusion
Danielle: "I became more aware of how I was including everyone and how I was meeting all the needs of my students, but in ways that were fair for them and in ways that, you know, being more aware of how an activity may make them feel, and so really, I guess, reflecting on what might those students specifically need."	Becoming more aware Reflecting on student needs
Jennifer: "I realized how all-encompassing it is over in the classroom. I kind of just thought of it as, like, okay, this is a kid who has a [one-on-one paraprofessional] and that's kind of how I thought of inclusion. But then you see it, like, applies to everyone."	New understanding of inclusion

Interview Responses Analysis

The following section examines participants' responses to the semi-structured interviews and seeks to answer the research question through participants' own words. Questions from the interview can be found in Appendix D. All responses have been lightly edited for clarity.

Tell Me About Your Experience. Participants were invited to share their experiences and thoughts surrounding the CPS intervention. All participants found the experience rewarding and beneficial and valued the knowledge they gained from their colleagues. Willow summed up the experience by saying,

> I really loved the collaboration process. It was a great way to solve the problems that each of us faces in our individual classes. And we never have time really to get together to talk, and it was a time to get together. Each person has a different perspective or experience, and we were able to come up with unique or different problem-solving strategies. That really helped. So, it was really, really great. I felt like I learned a lot from other people. That was the best part.

Amy felt the experience was positive, saying she "really enjoyed the overall experience" and it helped to keep her focus on inclusion "on a daily basis." Charlotte also "enjoyed it" and found it "really helpful," especially as "we don't get enough time for [collaboration]."

The notion of having time to hear other perspectives and work together came up repeatedly during this initial open-ended question. Candace emphasized the importance of working together, especially with peers who may have different experiences, when she said,

> I felt like it brought us all together from different teams, from different grades, from different roles. We were able to just problem-solve together, which was really refreshing. It was really nice, and it was always constructive because it was intentional to be that way.

Danielle felt that hearing the "thoughts out loud and hearing the vulnerabilities of others" helped her "see how inclusion can be tricky for everyone" and she was able to identify with that notion.

Participants also emphasized the need to address issues of inclusion, as they felt that this was often lacking or set aside at the school, even as we have a strong learning center to support exceptional learners. Colin spoke of this need, saying,

> It doesn't work to work in silos independently. So, I think this kind of fixes and amends that working-in-a-silo issue, especially on something like inclusion, which we don't ever get to collaborate on. If we collaborate on anything, it's assessment data, but we don't have any formal ways to assess inclusion data. This helped to fill that gap.

CPS Impact on Beliefs. While all participants noted the positive experience of engaging in CPS, several did not feel it necessarily impacted their beliefs surrounding inclusion. Most participants stated that while their beliefs had not changed, they were reinforced and solidified. Table 4.13 details participants' feelings about CPS's impact on their beliefs about inclusion.

Table 4.13 CPS's Impact on Participants' Beliefs about Inclusion

Participant	Impact on Beliefs
Willow	

	"It gave me a different perspective. I always felt that inclusion was extremely important but seeing how our school has a learning center and how that is supposed to greatly help us with our kids with special needs, it actually does the opposite. Because instead of including them in in their class setting, it excludes them by taking them out."
Amy	"I would say it just solidified what beliefs I had."
Colin	"Very impactful. Just, like, opening your eyes to what inclusion really means."
Charlotte	"Now I do think I'm more open to more extensive inclusion, especially for kids with significant disabilities."
Candace	"I think it just further made it clear how nuanced inclusion issues can be."
Danielle	"I don't think that my whole idea of inclusion has shifted drastically or anything. It was just reinforced in some ways."
Jennifer	"I realize now how all-encompassing it is over in the classroom."

CPS Impact on Instructional Practices. In addition to CPS's impact on teachers' beliefs, participants felt there were also changes in their instructional practices. Jennifer felt CPS helped her get "more creative," as did Charlotte, who felt she had "more options […] and more ideas from [her] peers." Willow felt the biggest impact was in her classroom-management practices and that "the strategies that [the team] came up with really helped [her student] succeed." Amy, Colin, and Danielle felt they changed their practices specifically around the issues of inclusion that they brought to the sessions and that, in Colin's words, "talking about it biweekly helped us always have it on the

forefront of [our] mind to help you tweak really small things in the classroom." The biggest takeaway for Candace was "how important it is for [her and her] co-teacher to meet regularly, but especially a lot in the very beginning to establish those agreements between one another instead of just assuming [...] we'll be able to speak the same language."

Continued Engagement in CPS. All participants responded with a resounding "yes" and felt it was critical to continue implementing CPS in our school and expand it across the primary school to include all teachers, including specialists (teachers of physical education, art, music, etc.). Candance was frustrated that this was not already happening and told me she

> would want to encourage the people who are in the position to do so to make that happen. So, people who work across different levels or different classrooms should make that happen. I mean, specifically, like our principal should be asking us to do this and he should be facilitating it.

Colin felt CPS was "such an easy, simple, productive and kind of like empowering thing to do because you can find solutions so easily" and that there "is a lot of potential" for a big impact to better include students; he wanted to take it and "bring it to [his] team" next year. Additionally, Charlotte, Willow, and Amy all spoke of a desire to lead their respective grades next year in implementing CPS, especially if administrators provide "the structure and the time and the place," as Amy told me.

Confidence in Meeting Exceptional Learners' Needs. Meeting exceptional learners' needs can be challenging, and participants felt that by collaborating with their peers and engaging in CPS, they were better prepared and more confident in meeting

those needs. Candace felt that even with her strong background in working with exceptional learners, her confidence had grown:

> I started off this year already feeling like I knew a lot about inclusion because of my previous experiences right before I came here, but I think, of course, it has grown, especially in the fact of understanding that not everybody is coming from the same place in the same belief about inclusion, not because they don't want to or they're bad people, but because of experiences. And so, I think that's been one big takeaway is just remembering to not take that for granted and assuming that just because we're all teachers doesn't mean we all want to include everybody by nature.

Jennifer also grew in her confidence while still acknowledging that she has much more to learn, telling me. "I feel pretty confident, but I think in that area there's always a lot more that you can do." Colin had a similar response and noted the importance of continuing to engage in CPS, saying, "From the beginning of this year and to now, I'm much more exponentially more confident than I was previously. But I do feel that [engaging in CPS] needs to happen for me consistently every year." Of all the participants, Willow felt the most impacted by engaging in CPS and told me,

> I've had students with different abilities, but I haven't had a student that was necessarily diagnosed with something. Mostly, I had students with behavior problems. But now that I went through this process, I was able to see throughout this process how teachers can work with students with learning or physical disabilities or whatever, and how important it is to include them. So, my confidence in that has increased and I don't think next year ''m necessarily ready

for it, but I believe in two years if I keep doing [CPS], I'm going to ask to be a co-teacher.

Formal Collaborative Problem-Solving Sessions

The six formal CPS sessions resulted in a total of ten issues of inclusion being raised, including physical, social, and academic exclusion, with some issues relating to multiple areas. There are no issues described from Session 6, as participants did not bring up any new issues but rather discussed the solutions implemented from previously identified issues and evaluated their impact. Table 4.14 details the issues raised during each session, along with the solution(s) that were implemented.

Table 4.14 CPS Issues and Solutions

Session	Issue Raised	Solution
	Charlotte: Social Exclusion	
	Child with pull-out services feels excluded and called out in front of his peers when the resource teacher calls him for his sessions	Nonverbal signal used to call student; schedule was modified such that all students are working with teachers or in small groups when student gets pulled so he is not called out during a whole-group activity
1	**Colin: Social and Academic Exclusion**	
	Child with one-on-one paraprofessional is taken out of the classroom multiple times throughout the day by his aid with	Weekly meeting with paraprofessional to improve communication and accountability; create visual schedule to identify necessary times for the student to be

	no communication or reason given to the homeroom teacher	pulled out; implement nonverbal communication strategies
	Amy: Academic Exclusion	
	Child with occupational therapy needs is struggling with academic tasks that require sustained attention and discrete fine motor skills needed in activities such as writing	Make alternative writing utensils available to all students; provide alternative seating for class; incorporate fine motor skills during centers and morning work for all students to support growth in this area
	Danielle: Academic Exclusion	
	Child with a significant reading delay has not been able to access reading material during students' book clubs and subsequent discussions	Utilize books on tape; provide access to books prior to group discussions via YouTube, read-aloud, or text-to-speech technology; student choice as to how she would like to better access the book
2	**Willow/Colin: Social, Physical, and Academic Exclusion**	
	First-grade field trip, where multiple students were excluded due to physical demands, academic activities, and general lack of forethought regarding exceptional learners' needs	First-grade team will meet with the Classroom Without Walls coordinator to identify concerns and prepare for future field trips; teachers will communicate specific student needs for future field trips
	Charlotte: Social Exclusion	
	Child with a physical disability who is post-surgery was struggling with sitting on the carpet and was given the recommendation to sit in a chair away from the carpet	Alternative/flexible seating provided for all students; creating a standing/chair sitting space around the carpet
	Jennifer: Academic Exclusion	
3	Difficulties appropriately pairing students for partner reading when there is a significant gap between levels (e.g., one student with an	Find a partner classroom where multiple students will read with others from this class

	exceptionally high reading level and one student who is well below grade level)	
	Amy: Social Exclusion	
	Child with a sensory processing disorder requires frequent movement and sensory breaks (every 20 minutes) throughout the day; he has become resistant to these breaks and comments that he feels left out from his classmates	Implement whole-class movement breaks; class jobs that require movement; partner breaks
4	**Willow: Social Exclusion**	
	Child with autism spectrum disorder has been struggling with emotion regulation and social interactions; he engages in tantrums during the day, which result in his peers avoiding him. He recognizes this avoidance and feels lonely and socially isolated.	Implement strategies from social skills sessions for the whole class; whole-class lessons to look out for friends who are lonely; conversations with individual students to support him in play during snack, lunch, and recess
	Danielle: Social Exclusion	
5	Child with dyslexia is being socially excluded by two students in the class	Work with school counselor; support child's peer relationships with different students; intentional grouping

Final CPS Session

During the final session, participants came together to evaluate the solutions that had been implemented over the course of the intervention. Participants reported the solutions implemented were successful and there was increased inclusion of the exceptional learner. Table 4.15 provides participants' final evaluations of the solutions that were implemented.

Table 4.15 Evaluation of Solutions

Session Issue Was First Identified	Participant and Issue Review	Evaluation of the Solution
	Charlotte: Social Exclusion	
1	Child with pull-out services feels excluded and called out in front of his peers when the resource teacher calls him for his sessions	Charlotte maintained the alternate schedule and felt it was a successful strategy. The child began bringing a partner with him to his pull-out sessions and reported to his teacher this made him feel more comfortable and included.
	Colin: Social and Academic Exclusion	
1	Child with one-on-one paraprofessional is taken out of the classroom multiple times throughout the day by his aid with no communication or reason given to the homeroom teacher	Colin continued meeting weekly with the paraprofessional and the solutions implemented have resulted in positive changes, with the child being taken out of the classroom with less frequency. Colin felt the solution implemented was successful.
	Amy: Academic Exclusion	
1	Child with occupational therapy needs is struggling with academic tasks that require sustained attention and discrete fine motor skills needed in activities such as writing	Amy increased her collaboration with the occupational therapist. The solutions implemented have improved the inclusion of fine motor skills within the classroom and the child has shown progress in accessing the activities requiring the use of these skills.
	Danielle: Academic Exclusion	
	Child with a significant reading delay has not been	Danielle reported having the child watch a video of the book

2	able to access reading material during students' book clubs and subsequent discussions.	utilized in the book club results in her increased participation during discussion. Danielle also reported she would need to provide other supports in the future to ensure the child's full participation in the book club.
	Willow/Colin: Social, Physical, and Academic Exclusion	
2	First-grade field trip, where multiple students were excluded due to physical demands, academic activities, and general lack of forethought regarding exceptional learners' needs	A shared document was created to communicate the specific needs of exceptional learners and suggestions for increasing their inclusion on Classrooms Without Walls (CWW) excursions. This document has been shared with the CWW coordinator, but there have been no subsequent outings in which to evaluate the implementation of this solution.
	Charlotte: Social Exclusion	
2	Child with a physical disability who is post-surgery was struggling with sitting on the carpet and was given the recommendation to sit in a chair away from the carpet	Charlotte reported the solutions implemented have worked and all students are using alternative seating. Charlotte also reports all students have increased their engagement during carpet meetings while using alternative seating and the child with the physical disability began demonstrating increased stamina.
	Jennifer: Academic Exclusion	

3	Difficulties with appropriately pairing students for partner reading when there is a significant gap between levels (e.g., one student with an exceptionally high reading level and one student who is well below grade level)	The partner reading with a partner classroom has continued with Jennifer believing it to be successful, as students feel challenged and included with the reading partners. Jennifer reported that two students stated they now had the "best reading partner ever."
	Amy: Social Exclusion	
4	Child with a sensory processing disorder requires frequent movement and sensory breaks (every 20 minutes) throughout the day; he has become resistant to these breaks and comments that he feels left out from his classmates	Movement breaks for whole class have been mostly successful according to Amy. The incorporation with the whole class has increased the child's inclusion in the class and the student is showing improvement in self-regulation and no longer reporting feeling excluded.
	Willow: Social Exclusion	
4	Child with autism spectrum disorder has been struggling with emotion regulation and social interactions; he engages in tantrums during the day which result in his peers avoiding him. He recognizes this avoidance and feels lonely and socially isolated.	Willow began working with the child's family and speech and language therapist, which has been helpful to generalize supports from his therapy sessions to the classroom. He has been making friends and reports feeling less lonely, which has reduced his stress and outbursts.
	Danielle: Social Exclusion	
5	Child with dyslexia is being socially excluded by two students in the class	Danielle reports there has been limited change, partially due to the short period of time that the solution was implemented. She does, however, note the child has begun seeking out alternative peers to engage with.

Summary

Chapter 4 presented the findings of this action research study, along with an analysis of the qualitative and quantitative data collected. The quantitative data presented in the form of classroom observations showed an increase in the use of high-quality inclusive practices for all participants, with an average increase of 1.80. The results of the knowledge and skills survey also showed an increase in all three domains, with participants demonstrating the greatest increase of 1.62 points in the managing student behavior and social skills instruction domain, followed by an increase of 1.57 points in the planning and managing the teaching and learning environment domain. Finally, the instructional content and practice domain showed a 1.21-point increase. An analysis of the qualitative data from interviews highlighted the ease of implementation, participants' enjoyment of the process, self-reported increases in confidence in meeting exceptional learners' needs, and positive changes to instructional practices. Additionally, the qualitative data from the formal CPS sessions showed that the solution implemented resulted in the increased social, physical, and academic inclusion of exceptional learners in the classroom. These findings highlighted the positive impact that a CPS process had on the inclusive practices of seven general education teachers at a private bilingual school in Bogotá, Colombia.

CHAPTER 5: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Study Overview

A right to education for all has been well-established as far back as 1948 with Article 26 of the Universal Declaration of Human Rights (United Nations, 2015). Education as a human right has been consistently reaffirmed, including for the most vulnerable students (Tomasevski, 2004). While one aspect of a rights-based education is inclusive education (Save the Children, 2020) many general education teachers report feeling unprepared to meet the needs of exceptional leaners in their classrooms (Brownell et al., 2006; Rosenzweig, 2009). The current study aimed to improve the inclusive practices of general education teachers at a private bilingual school in Bogotá, Colombia through a collaborative problem-solving process.

This mixed-methods action research study examined the impact of a CPS process on the inclusive practices, confidence, and beliefs of general education teachers at a private bilingual school in Bogotá, Colombia. The study took place over the course of 18 weeks in the spring of 2022. Built upon Vygotsky's social constructivism and Wenger's communities of practice as a theoretical framework, seven participants worked together over the course of six formal CPS sessions using a 5-step problem-solving process to collaborate on addressing inclusion issues in their classrooms. This study was guided by the following original research question: How does participating in collaborative problem-solving impact teachers' inclusive instructional practices, teachers' attitudes and

beliefs about inclusive education, and teachers' confidence in meeting the needs of exceptional learners?

Quantitative data included pre- and post- classroom observations to compare the quantity of high-quality inclusive practices utilized and the completion of the Scale of Knowledge and Skills survey pre- and post- intervention. Qualitative data included the transcripts from CPS sessions and one-on-one semi-structured post-intervention interviews with each participant to specifically address the research questions and gain insight into their experience participating in this action research study.

Results showed an increase in the number of high-quality inclusive practices being utilized by participants post-intervention, in addition to improved confidence in meeting exceptional learners' needs. Data also indicated that participants' attitudes and beliefs toward inclusion were positively reinforced, with participants indicating they felt even more strongly about including exceptional learners in the general education classroom. These results suggest that participating in a CPS process to address inclusion issues can lead to improved inclusive practices, increased confidence in meeting exceptional learners' needs, and positive attitudes toward inclusive education. These results are important, as they begin to address several barriers to inclusion that have been identified in the literature, including attitudinal barriers, knowledge barriers, teachers' perceptions of inclusion, and administrative support in providing time for planning and collaboration (Darrow, 2009; Fuchs, 2010; Monsen et al., 2014).

Results Related to Existing Literature

The current action research study was grounded in social constructivism, as originally developed by Lev Vygotsky, and Étienne Wenger's community of practice model (1998). This study operated from the perspective that inclusive education is a fundamental human right; therefore, barriers in implementing inclusion must be addressed to allow for the successful inclusion of exceptional learners in the general education classroom. Hunt et al. (2003) highlighted the importance of collaboration between teachers when shifting toward more effective inclusive practices. Collaboration and the social construction of knowledge within a community of practice can lead to increased sharing and use of best practices and supports the sustainability of those practices over time (Berry et al., 2009). Teacher collaboration also helps build communities of practice in which teachers develop relationships, share best practices, and work toward improved outcomes for exceptional learners (Mulholland & O'Connor, 2016). These conclusions are reinforced by the current study's results.

The previous studies that guided the current study (Hobbs & Westling, 1998; Salisbury & Evans, 1993; Salisbury, Evans, & Palombaro, 1997) implemented CPS within individual classrooms, where teachers facilitated the process as students worked through the five steps. In these seminal studies, the focus was on student collaboration with teachers as facilitators. While positive outcomes for exceptional leaners were evidenced in these studies, my goal was to extend the findings by examining collaboration between teachers via the 5-step CPS process rather than within a single classroom with collaboration between students. This goal was supported by the theoretical framework of social constructivism, which emphasizes the need for changing

teaching practices to meet exceptional learners' needs in the general education classroom. The community of practice model of learning through dialogue (Laluvein, 2007) also facilitated this type of collaboration between teachers rather than with students. Other studies have examined teacher collaboration and found it can lead to improved student outcomes, facilitate sharing best practices, increase teacher retention, sustain the implementation of interventions over time, and is viewed positively by teachers (Berry et al., 2009; Mulholland & O'Conner, 2006). The results of the current study support these findings, as all participants reported that engaging in CPS was a positive experience; participants also demonstrated an increase in their use of high-quality inclusive practices. As evidenced in the one-on-one interviews, the collaborative piece was the most highly valued and self-reported as having the largest impact on teaching practices. These findings align with previous studies in the importance of collaboration between teachers to improve teaching practices and support the use of collaboration to target issues surrounding inclusion.

Specifically, Salisbury et al. (1997) observed an increase in the occurrence of physical, social, and instructional inclusion, results which were also evidenced in this study during the classroom observations. The current study presented similar results to Salisbury et al. (1997) about teachers' perspectives, as I also found that participants felt CPS was an important and easy-to-implement strategy to address issues of inclusion in the general education classroom. One limitation for Salisbury et al. (1997) that was not found in the current action research study was the difficulty in reporting on solutions that were tried but did not work or that were initially deemed feasible and then later shown to not be feasible. This was partially due to the number of informal CPS sessions that

occurred in the Salisbury et al. (1997) study. The current study was able to examine all proposed and implemented solutions because follow-up to these solutions was part of each session and teachers also reported back on the continued implementation of solutions in the final CPS session. However, due to the short time in which this study was conducted, the long-term impact and implementation of solutions is yet to be seen. Additionally, there were no informal sessions reported that allowed for better tracking of teachers' engagement in the CPS process. I would hope that in the future, teachers begin to engage in informal CPS, as this would indicate an internalization of the process.

A limitation to the problem-solving process observed by Williamson and Mcleskey (2011) was related to the interpersonal relationships between participants, which may have interfered in the outcomes as conflict, complaining, disagreements, and a lack of focus during meetings were reported during the sessions. The volunteers in the current study did not report such conflict or difficulties during the sessions and in fact reported the opposite. Participants noted that the community built during sessions was positive and provided strong support and comfort. There was, however, one participant, Candance, who reported feeling apprehensive to report problems of inclusion in her classroom because she did not want to "throw [her] co-teacher under the bus" since the co-teacher was not a participant. This could be addressed in future research by requiring both co-teaching pairs to participate as part of the participant inclusion criteria.

Reflection on Limitations

While several limitations are present in the current study, participants indicated that the primary limitation from their perspective was the amount of time available for engaging in CPS. The study occurred over the course of 18 weeks during the second

semester of the school year, whereas previous studies examining teacher collaboration and CPS took place over the course of one or more years. An extended timeline may allow for better outcomes and increased improvements in teachers' use of high-quality inclusive practices, as well as evaluating the intervention's sustainability. An extended timeline would also allow for a deeper analysis of the solutions implemented and their long-term impact on students.

A second limitation was the voluntary nature of the study, as those who volunteered may have already been motivated to improve their inclusive practices, resulting in their participation in the study. The teachers who volunteered also had reported positive attitudes and beliefs toward inclusion prior to their participation, therefore making it difficult to know if participating in CPS would have the same impact on attitudes and beliefs for teachers without these positive attitudes.

A final limitation is a lack of generalizability. This research was conducted in a private PreK-12 school in Colombia. While international schools are common around the world, many do not admit the large number of exceptional learners that Colegio Las Montañas does. Additionally, the large staff employed within the learning center and the school's stated inclusive goals may not be as common in other settings, resulting in a school context that values inclusion and places it as a priority. These unique social contexts are complex, which can make them difficult to predict (Coghlan & Brydon-Miller, 2014). While this can make the ability to generalize findings to other contexts difficult, the study can offer transferability to other similar schools and provide guidance for replication in other school settings.

Implications for Future Research and an Action Plan

A defining feature of action research is its cyclical nature (Efron & Ravid, 2020). A problem of practice is identified, a plan is created, the results are examined, and the "knowledge gained leads to new questions and a new cycle" (Efron & Ravid, 2020, p. 7). The results of this study and its positive impact on participants' inclusive practices and their enthusiasm for continuing and expanding the process are the basis for the following action plan.

Beginning in September of the 2022/2023 school year, all primary-school teachers (grades PreK-2 homeroom, co-teachers, Spanish teachers, and specialist teachers) will receive a half-day training addressing a rationale for inclusive schooling practices; a working knowledge of what physical, social, and instructional inclusion might look like; an overview of criteria used to screen potential solutions, which must reflect general principles of equity, concern for others, belonging, and accommodations for individual differences; and a review of the five steps of the CPS process. Following this, the five research participants who remain working at the school and I will lead once-monthly CPS sessions for the duration of the school year within individual grade-level teams and the specialist team to address inclusion issues. The structure of the sessions will remain largely the same as during the study, though more focused on individual grade levels rather than across grades, as well as including time for targeted professional development about high-quality inclusive practices and strategies for their implementation in the classroom. In addition to embedding targeted professional learning surrounding inclusive practices, the sessions during this new cycle will differ in that the CPS facilitators will take a more active role during the problem-solving process rather

than only ensuring fidelity to the 5-step process. Peer observations will also be implemented so the collaboration component can extend to seeing the implementation of inclusive practices in action and to allow teachers to collaborate in evaluating the effectiveness of the implemented solutions.

In addition to measuring outcomes surrounding teacher practices, future research must also examine the impact of these changes on exceptional learners' learning outcomes. Improving instruction to align with best practices implies students would also benefit; however, directly measuring this impact will be important in evaluating the effectiveness of CPS on student learning. Therefore, it is necessary to measure the impact of this type of intervention on student learning outcomes in future studies.

By expanding in both scope and duration, this new cycle exploring the impact of CPS on inclusive instructional practices, teacher beliefs and attitudes toward inclusion, and teachers' confidence in meeting exceptional learners' needs can address some of the limitations present in the current study. Additionally, this increased knowledge and understanding of different aspects of the impact of CPS can support transferability further within the internal school community (e.g., the elementary school) and provide guidance to other action research studies examining similar issues and interventions.

In addition to expanding the CPS process across the primary school, I am applying to present at professional learning conferences where I can share the results of the study and support other schools and educators in improving their inclusive practices. In 2023, I will present the study along with practical applications at the Inclusion Schools Conference in Ecuador to teachers and administrators from international schools around Latin America.

Summary

The inclusion of exceptional learners in the general education classroom is a defining feature of a human rights-based education. Teacher collaboration has been shown to serve as a critical component in improving teachers' inclusive practices and supporting exceptional learners in the general education classroom. This action research study has helped demonstrate that a CPS process can facilitate the development of stronger inclusive practices, increase teacher confidence in meeting exceptional learners' needs, and strengthen positive attitudes toward inclusion. While this study had certain limitations, the next cycle of the action plan can help address many of them and provide additional evidence of the efficacy of a CPS process in addressing issues surrounding inclusion.

Engaging in this action research study was both challenging and rewarding. It has reinforced my belief in the importance of supporting teachers as they strive to meet the needs of a diverse student population. It is my hope that this study can serve as a guide for other educators as they work toward a more equitable and just education system for all students, regardless of disability or other difference.

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Appendix A: Participant Interest Survey

Good morning Primary School teachers,

As a requirement for my Education Doctorate in Curriculum and Instruction from the University of South Carolina, I am conducting an action research study that aims to support teachers in their inclusive practices in the classroom. Action research is different from traditional research as its goal is to "investigate a question based on the researcher's own concerns and areas of professional interest...where the results are immediately relevant to the improvement of their [own] practice" (Efron & Ravid, 2020). Another important difference is that in action research, it is the teachers and school personnel who take on the role of researcher. It is a collaborative endeavor rather than research that is imposed on participants.

This survey is to gauge the interest of the primary school teachers in participating in an action research study that aims to answer the following question:

1. How does participating in Collaborative Problem-Solving impact:

   a) teachers' inclusive instructional practices?
   b) teacher attitudes toward inclusive education?
   c) teachers' reported confidence in meeting the needs of students with disabilities?

<u>What will I have to do?</u>

Teachers will be asked to participate in a half day professional development led by me, regarding the steps and procedures of Collaborative Problem Solving (CPS). Afterwards, we will aim to meet every other week to engage in a CPS session where we will work as a team to examine issues and needs in your classrooms related to inclusion and to generate solutions. I will also observe a class of your choice, with prior notice, once before, once during, and once after the implementation of the CPS process. In addition, there is a short Likert Scale style survey to be completed before and after the intervention. Lastly, there is a post intervention one on one interview where you will be able to share your thoughts and feelings about the experience. This is an approximately 12 to 16 week commitment.

There is **NO** obligation to participate. It is 100% **voluntary** and there will be no negative consequence should you choose not to participate. You also have the right to leave the study at any time if you so choose. If you choose to participate, the benefits may include, among others:

- Increased knowledge of working with exceptional learners
- Improved inclusive practices
- Stronger collaborative relationships with your fellow teachers
- Improved outcomes for your students (academic, social, emotional, etc.)

There are no identified risks to participating.

If you are interested (interest does **NOT** obligate participation) or would like to have more information about what the study entails, please respond to this survey by XX/XX/XXXX.

Thank you so much for your time!

Renee Elmore
Primary School Intervention Specialist

Appendix B: The Scale of Knowledge and Skills for Instruction and Management of Students with Disabilities

Part I: Demographic Information

Directions: Please answer the following questions about yourself and your school by placing a check (✓) in the appropriate blank, or by providing appropriate information in the blank.

1. Professional Training (Highest Degree)

___Bachelor's Degree

___Master's Degree

___Specialist Degree

___Doctorate

2. Area(s) of Certification

___Elementary Education

___Secondary Education

___Special Education

___Mild/Moderate Disabilities

___Severe/Profound Disabilities

___Other (specify) _____

3. Present Teaching Level

9. What are the disabilities of the students you currently teach? Check all that apply.

___emotional/behavioral disordered

___hearing impaired

___learning disabled

___mildly mentally disabled

___moderately mentally disabled

___multidisabled

___orthopedically impaired

___Elementary School, Grade Level ___

___Middle School, Grade Level _____

___Other (specify) _____

4. Total Years of Teaching Experience (for each setting)

___General (Regular) Education

___Special Education

___Full Inclusion

___Inclusion

5. Are you currently teaching in an inclusion setting?

___yes

___no

If no, please go to item 13.

6. Approximately how many students do you teach who

are identified as having disabilities?

___1-2

___3-5

___6-8

___9-11

___12-14

___severely/profoundly mentally disabled

___speech/language disordered

___other (specify)

_____

10. The students with disabilities that you teach receive instruction in

___your class only

___special education and your class

___other (specify)

_____

11. Your primary teaching responsibility is

___academic subjects

___art/music

___ physical education

___ band

___ Other, (specify)

_____

____more than 14

7. Most of the students that you teach with disabilities are

___minority students

___non-minority students

8. What is the average class size of the classes you teach that include students with disabilities?

___1-5

___6-10

___11-15

___16-20

___21-25

___more than 25

12. Indicate the source(s) from which you have received training on inclusion.

___ college course work

___professional conferences/meetings

___in-service workshop(s) at local school

___Other, (specify)

_____

13. Indicate the source(s) from which you have received content knowledge of cultural diversity.

___ college course work

___professional conferences/meetings

___in-service workshop(s) at local school

___Other, (specify)

_____

14. Did your college training prepare you for the reality of teaching in an inclusion setting?

___ yes

___no

15. Would you advocate that the primary placement for "all" students with disabilities be the general education classroom?

___yes

___no

Part II: Instructional Content and Practice

Directions: Please indicate your perceived level of "knowledge" and "skills" in the area of "Instructional Content and Practice" as related to students with disabilities. Rate each item based on the scale below. Circle only one response per item.

Knowledge	Skills
1= No Knowledge	1= No Skills
2= Limited Knowledge	2= Limited Skills
3= Undecided	3= Undecided
4= Moderate Knowledge	4= Moderate Skills

5= Adequate Knowledge	5= Adequate Skills

Knowledge:	**Response**				
1. Learning Styles					
a. different learning styles of students	1	2	3	4	5
b. how to adapt teaching to these styles	1	2	3	4	5
2. Demands of various learning environments (e.g. individualized instruction in general education classes).	1	2	3	4	5
3. Curricula for the development of:					
a. cognitive skills	1	2	3	4	5
b. academic skills	1	2	3	4	5
c. social skills	1	2	3	4	5
4. Instructional and remedial:					
a. methods	1	2	3	4	5
b. techniques	1	2	3	4	5
c. curriculum materials	1	2	3	4	5
5. Techniques for modifying:					
a. instructional methods	1	2	3	4	5
b. instructional materials	1	2	3	4	5

Skills:	**Response**				
6. Interpreting and using assessment data for instructional planning.	1	2	3	4	5
7. Developing and/or selecting assessment measures and instructional programs and practices which respond to:					
a. cultural differences	1	2	3	4	5
b. linguistic differences	1	2	3	4	5
c. gender differences	1	2	3	4	5
8. Choosing and using appropriate technologies to accomplish instructions objectives. and to integrate them appropriately into the instructional process.	1	2	3	4	5
9. Preparing appropriate lesson plans.	1	2	3	4	5
10. Involving the students in setting instructional goals and charting progress.	1	2	3	4	5
11. Conducting and using task analysis.	1	2	3	4	5
12. Instructional strategies and materials					
a. selecting instructional strategies and materials according to characteristics of the learner	1	2	3	4	5
b. adapting instructional strategies and materials according to characteristics of the learner	1	2	3	4	5
c. using instructional strategies and materials according to characteristics of the learner	1	2	3	4	5

13. Student learning objectives					
a. sequencing individualized learning objectives	1	2	3	4	5
b. implementing individualized learning objectives	1	2	3	4	5
c. evaluating individualized learning objectives	1	2	3	4	5
14. Integrating the following skills with the curricula:					
a. affective	1	2	3	4	5
b. social	1	2	3	4	5
15. Using strategies for facilitating maintenance and generalization of skills across learning environments.	1	2	3	4	5
16. Using instructional time properly (adequately).	1	2	3	4	5
17. Teaching students to use thinking, problem-solving, and other cognitive strategies to meet their individual needs.	1	2	3	4	5
18. Establishing and maintaining rapport with learner.	1	2	3	4	5
19. Using verbal and nonverbal communication techniques.	1	2	3	4	5
20. Conducting self-evaluation of instruction.	1	2	3	4	5

Part III: Planning and Managing the Teaching and Learning Environment

Directions: Please indicate your perceived level of "knowledge" and "skills" in the area of "Planning and Management of die Teaching and Learning Environment" as related to students with disabilities. Rate each item based on the scale below. Circle only one response per item.

Knowledge	Skills
1= No Knowledge	1= No Skills
2= Limited Knowledge	2= Limited Skills
3= Undecided	3= Undecided
4= Moderate Knowledge	4= Moderate Skills
5= Adequate Knowledge	5= Adequate Skills

Knowledge:	**Response**				
21. Basic classroom management for students with exceptional teaming needs in terms of:					
a. theories	1	2	3	4	5
b. methods	1	2	3	4	5
c. techniques	1	2	3	4	5
22. Research based best practices for effective management of teaching and learning.	1	2	3	4	5
23. Ways in which technology can assist with planning and managing the teaching and learning environment.	1	2	3	4	5

Skills:	**Response**				
24. Creating a safe, positive, and supporting learning environment in which diversities are valued.	1	2	3	4	5

25. Using strategies and techniques for facilitating the functional integration of exceptional individuals in various settings.	1	2	3	4	5
26. Preparing and organizing materials in order to implement daily lesson plans.	1	2	3	4	5
27. Incorporating evaluation, planning, and management procedures which match learner needs with the instructional environment.	1	2	3	4	5
28. Designing a learning environment that encourages active participation by learners in a variety of individual and group learning activities.	1	2	3	4	5
29. Designing, structuring, and managing daily classroom routines, including transition time, effectively for:					
a. students	1	2	3	4	5
b. other staff	1	2	3	4	5
c. the general classroom	1	2	3	4	5
30. Directing the activities of a classroom					
a. paraprofessional	1	2	3	4	5
b. aide	1	2	3	4	5
c. peer tutor	1	2	3	4	5

Part IV: Managing Student Behavior and Social Interaction Skills

Directions: Please indicate your perceived level of "knowledge" and "skills" in the area of "Managing Behavior and Social Interaction Skills" as related to students with disabilities. Rate each item based on the scale below. Circle only one response per item.

Knowledge	Skills
1= No Knowledge	1= No Skills
2= Limited Knowledge	2= Limited Skills
3= Undecided	3= Undecided
4= Moderate Knowledge	4= Moderate Skills
5= Adequate Knowledge	5= Adequate Skills

Knowledge:	**Response**				
31. Applicable laws, rules, and regulations, and procedural safeguards regarding the planning and implementation of management of student behaviors.	1	2	3	4	5
32. Ethical considerations inherent in classroom behavior management.	1	2	3	4	5
33. Teacher attitudes and behaviors that:					
a. positively influence student behaviors	1	2	3	4	5
b. negatively influence student behaviors	1	2	3	4	5

34. Social skills needed for:					
a. educational environments	1	2	3	4	5
b. functional living environments	1	2	3	4	5
35. Ways in which technology can assist with planning and managing the teaching and learning environment.	1	2	3	4	5

Skills:	**Response**				
36. Demonstrating a variety of effective behavior management techniques appropriate for the needs of exceptional individuals.	1	2	3	4	5
37. Implementing the least intensive intervention consistent with the needs of the exceptional individual.	1	2	3	4	5
38. Modifying the learning environment (schedule and physical arrangement) to manage inappropriate behaviors.	1	2	3	4	5
39. Identifying realistic expectations for:					
a. personal behavior in various settings	1	2	3	4	5
b. Social behavior in various settings	1	2	3	4	5
40. Integrating social skills into the curriculum.	1	2	3	4	5
41. Using effective teaching procedures in social skills instruction	1	2	3	4	5
42. Demonstrating procedures to increase:					
a. student self-awareness	1	2	3	4	5

b. student self-control	1	2	3	4	5
c. student self-reliance	1	2	3	4	5
d. Student self-esteem	1	2	3	4	5

43. What kind of teacher do you perceive yourself to be?

____ General Education Inclusion Teacher ____ General Education Non-Inclusion Teacher

44. How would you describe your classroom setting?

____ General Education Setting ____ Full Inclusion Setting ___ Inclusion Setting

45. Overall, how would you rate your knowledge and skills for teaching students with disabilities?

___ Excellent ____ Good ___ Fair ___ Insufficient

Additional Comments:

_____

_____

_____

_____

_____

Appendix C: Quality Inclusive Practices Checklist

Observation Information	
Teacher's Name	
Date	
Reviewer	
Grade	
Subject Area	

Classroom Demographics	
Class Size	
Exceptional Learners	
Teaching Model	

Access

A wide range of activities and environments are provided for every child. Strategies supporting access include the removal of physical barriers and promoting learning and development in multiple ways. (DEC/NAEYC, 2009)

A. Universal Design

Full participation for all children is supported in the physical environment through access and equitable opportunities in all program activities.

A1. Equitable Use - each child's language, culture and unique abilities are taken into account through environmental design and materials. Yes ☐ No ☐ Evidence:
A2. Flexibility In Use – the unique needs of each child are supported through varied uses of environmental design and materials. Yes ☐ No ☐ Evidence:
A3. Perceptible Information – how to use space and materials as well as environmental expectations are clearly communicated. Yes ☐ No ☐ Evidence:

A4. Simple and Intuitive Use – children can easily understand and use environmental design and materials. Yes ☐ No ☐ Evidence:
A5. Tolerance for Error – children are successful when interacting with the environment and materials. Yes ☐ No ☐ Evidence:
A6. Low Physical Effort – minimal physical effort is needed to interact with the environment and materials. Yes ☐ No ☐

Evidence:

A7. Size and Space for Approach and Use – children's interactions with the environment and materials are based on unique abilities, interests, and goals.

Yes ☐ No ☐

Evidence:

B. Universal Design for Learning (UDL)

Flexible methods of presenting and motivating students, as well as ways for students to express their learning is at the heart of instructional strategies that use UDL. Includes a focus on diverse learning styles and abilities.

B1. Multi-sensory ways to support different styles of learning are used to present information and content.

Yes ☐ No ☐

Evidence:

B2. Children demonstrate and express ideas and learning using a variety of methods.

Yes ☐ No ☐

Evidence:

B3. Intentional teaching methods and strategies are used to engage children

Yes ☐ No ☐

Evidence:

C. Assistive Technology (AT) Children's access to learning opportunities is supported through a range of learning opportunities. AT uses might range from making simple environmental and materials changes to helping children use special equipment.
C1. "Low tech" supports such as laminated picture boards or pencil wedges are used. Yes ☐ No ☐ Evidence:
C2. "High tech" supports such as augmented or alternative communication devices are used. Yes ☐ No ☐ Evidence:

D. Adaptations Strategies that increase children's independent participation in daily routines/ activities and provide access to the learning community are provided. Adaptations can range on the continuum from least to most intrusive in terms of support.
D1. Adaptations provided are appropriate to the child's strengths and challenges. Yes ☐ No ☐ Evidence:
D2. Appropriate adaptations are provided across daily routines and activities. Yes ☐ No ☐ Evidence:

Participation Range of instructional approaches that support engagement and a sense of belonging in play and learning activities for each and every child (DEC/NAEYC, 2009)
A. Embedded Instruction and Other Naturalistic Interventions
A1. Daily, naturally occurring activities and routines support individual learning goals from the Individualized Education Plan (IEP). Yes ☐ No ☐ Evidence:
A2. Embedded instruction is distributed within regular activities and routines. Yes ☐ No ☐ Evidence:

A3. Tools and strategies are used to support each child's meaningful engagement in the classroom community. Yes ☐ No ☐ Evidence:
A4. Practitioners use both incidental and intentional teaching methods. Yes ☐ No ☐ Evidence:
A5. Practitioners support peer social relationships. Yes ☐ No ☐

Evidence:

A6. Practitioners facilitate collaborative problem-solving between children.

Yes ☐ No ☐

Evidence:

A7. Practitioners use techniques to support children's successful transitions between activities.

Yes ☐ No ☐

Evidence:

B. Scaffolding Strategies

Structured, targeted approaches used with children who require more intensive supports. Approaches include modeling, response prompting, peer supports, and corrective feedback.

B1. Practitioners scaffold children's language, play, and activities with appropriate use of modeling.

Yes ☐ No ☐

Evidence:

B2. Practitioners scaffold children's language, play, and activities with appropriate use of response prompting strategies.

Yes ☐ No ☐

Evidence:

B3. Practitioners scaffold children's language, play, and activities through provision of corrective feedback.

Yes ☐ No ☐

Evidence:

C. Tiered Models of Instruction

Strategies that help practitioners connect children's formative assessment results to teaching and intervention strategies.

C1. Formative, universal screening is completed periodically on all children in a classroom or program to monitor their development and learning.

Yes ☐ No ☐

Evidence:

C2. Formative, progress monitoring is completed to gather the information needed to guide instruction.

Yes ☐ No ☐

Evidence:

C3. Instruction utilizes a developmentally appropriate, research-based curriculum. Yes ☐ No ☐ Evidence:
C4. Instruction is differentiated according to children's needs, backgrounds, preferences and differences. Yes ☐ No ☐ Evidence:

C5. Progress monitoring results are used to target small groups that need additional instruction. Yes ☐ No ☐ Evidence:
C6. Intensive, explicit, systematic, individualized instruction is based on progress monitoring. Yes ☐ No ☐ Evidence:

Quality Inclusive Practices Checklist Summary		
Defining Feature of Inclusion	**Strength**	**Challenge**
Access		

Participation		

Appendix D: Semi-Structured Interview Questions

1. Tell me about your experience participating in this action research study?
1. How did participating impact (if at all) your beliefs towards inclusion?
2. Tell me about any changes to your instructional practices as a result of engaging in CPS?
3. Do you plan to continue engaging in CPS? Why or why not?
4. Tell me about your confidence in your ability to meet the needs of exceptional learners. Has this changed at all?
5. Is there anything else that you would like to share with me?